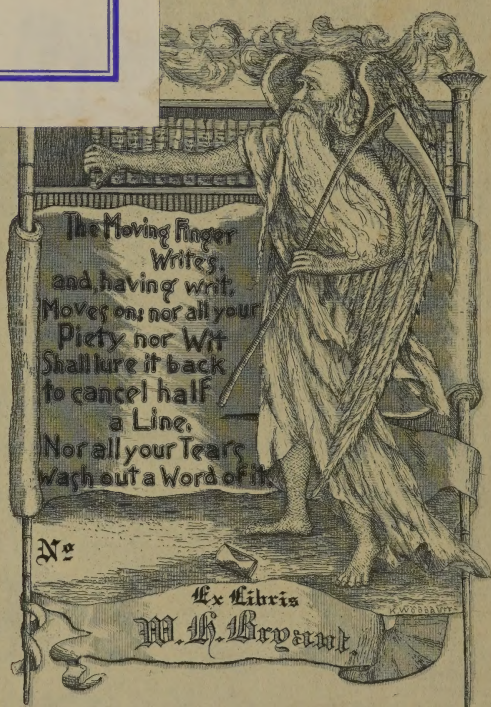




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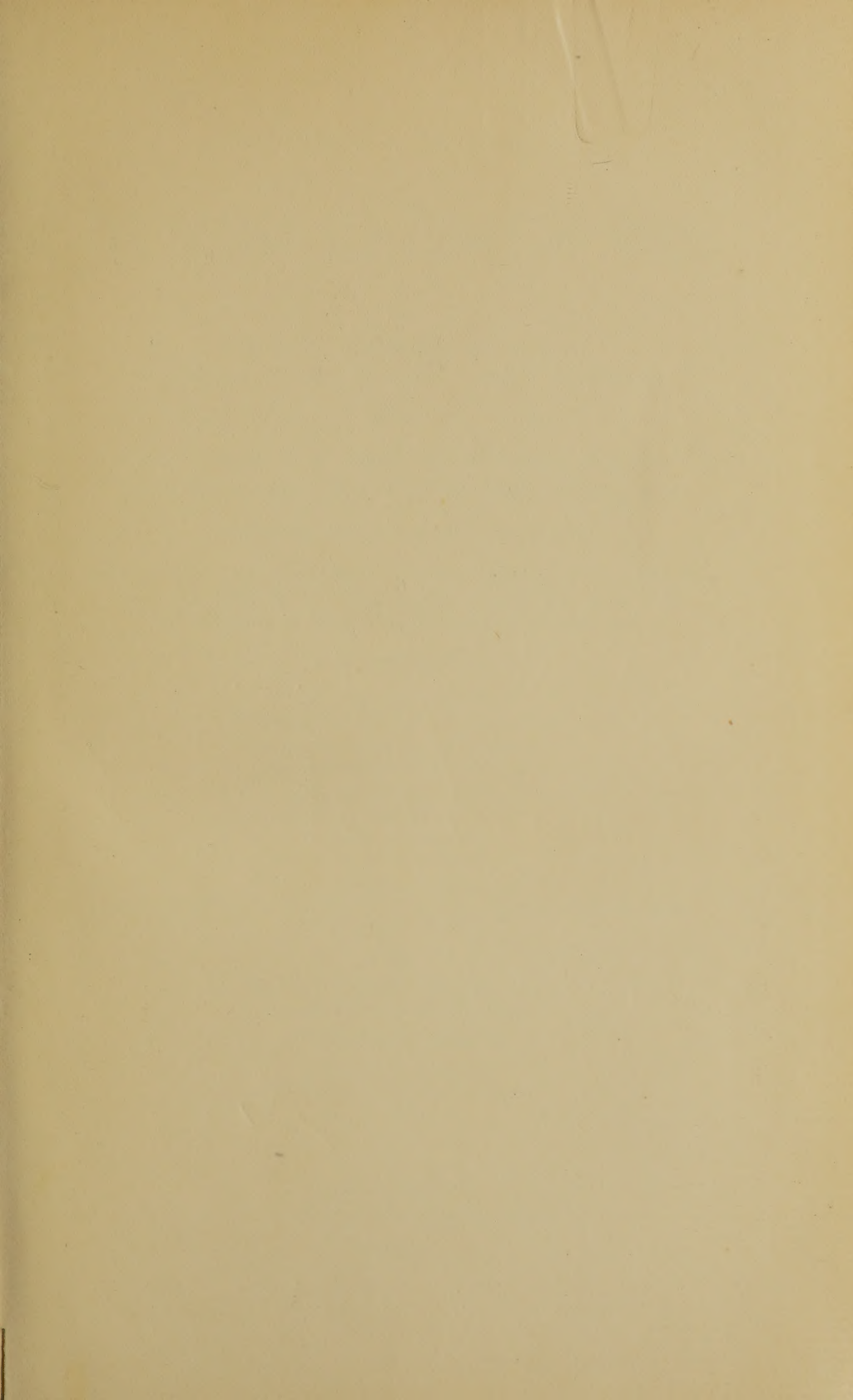
















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# THE HISTORY AND THEORY OF MONEY.

BY

SIDNEY SHERWOOD, PH.D.,

WHARTON SCHOOL OF FINANCE AND ECONOMY, UNIVERSITY OF PENNSYLVANIA.

BEING A

SPECIAL COURSE OF TWELVE LECTURES IN FINANCE,  
WITH SYLLABUS AND ATTENDANT DISCUSSION,

DELIVERED UNDER THE AUSPICES OF THE

ASSOCIATION LOCAL CENTRE OF THE AMERICAN SOCIETY FOR  
THE EXTENSION OF UNIVERSITY TEACHING, AND THE  
PATRONAGE OF THE BANKERS OF PHILADELPHIA.

WITH ADDRESSES BY

DR. WILLIAM PEPPER,

PROVOST OF THE UNIVERSITY OF PENNSYLVANIA ;

HON. WILLIAM L. TRENHOLM,

LATE COMPTROLLER OF THE CURRENCY ;

HON. EDWARD S. LACEY,

COMPTROLLER OF THE CURRENCY ;

JOSEPH WHARTON, -

FOUNDER OF THE WHARTON SCHOOL ;

PROF. EDMUND J. JAMES, PH.D.,

WHARTON SCHOOL, AND PRESIDENT OF THE AMERICAN SOCIETY FOR THE EXTENSION  
OF UNIVERSITY TEACHING ;

AND

CHARLES HERMON THOMAS, M.D.,

CHAIRMAN ASSOCIATION LOCAL CENTRE ;

AND AN INTRODUCTION BY

WILLIAM H. RHAWN,

CHAIRMAN OF COMMITTEE OF BANKERS.

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PHILADELPHIA:

J. B. LIPPINCOTT COMPANY.

1893.

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## PREFACE.

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THE motives which led to the publication of this book will be found fully stated in the Introduction by Mr. Rhawn. There remains to be said, therefore, only a word of explanation in regard to the method of revision followed by me in editing these pages.

My responsibility for the matter not my own extends merely to the reading of proof.

My lectures were delivered extemporaneously, and, together with the discussions following them, are, as here presented, substantially a reprint of the stenographer's notes. My rule of revision, both in thought and in form, was the minimum of change consistent with good grammar and clear expression. About half the first lecture-hour was spent in commenting on the literature of the subject, and these remarks, unfortunately, not being reported, I was obliged to expand the first lecture to make it uniform in length with the others. This expansion was, however, along the original lines of thought.

My aim in these lectures was twofold: to give a clear statement of essential facts and theories and to present with strict impartiality the disputed points of doctrine.

The book is devoted to the cause of education,—the more scholarly education of practical men and the more practical education of scholars.

SIDNEY SHERWOOD.

JOHNS HOPKINS UNIVERSITY, December, 1892.





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## APPENDIX.

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## INTRODUCTION.

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A BELIEF that the officers, clerks, and others interested in the banks and financial institutions of Philadelphia would receive much benefit from the popular "University Extension" movement led to the acceptance, in January, 1892, of a suggestion made by Professor Edmund J. James, Ph.D., of the Wharton School of Finance and Economy, University of Pennsylvania, and President of the American Society for the Extension of University Teaching, namely, the delivery of a special course of University Extension lectures in Philadelphia upon the subject of Finance, under the auspices of leading bankers and financiers of the city as patrons, represented by a committee.

A course of twelve lectures was accordingly arranged by Professor James, on "The History and Theory of Money," by Sidney Sherwood, Ph.D., of the Wharton School. The course was opened with addresses and a reception in the drawing-room of the New Century Club, on Wednesday evening, February 10, the addresses being made by Dr. William Pepper, Provost of the University of Pennsylvania; Hon. William L. Trenholm, ex-Comptroller of the Currency; Hon. Edward S. Lacey, Comptroller of the Currency; Mr. Joseph Wharton, founder of the Wharton School; and Dr. Sherwood.

Professor James was prevented by a serious illness from being present at the opening, or at any of the lectures but the last, when he made the closing address. The lectures by Dr. Sherwood were delivered every Wednesday evening from February 17 until May 4, at Association Hall, before large audiences com-

posed of both ladies and gentlemen and not at all confined to bankers, each lecture being followed by a general discussion of the subject treated.

The opening addresses, the entire course of lectures, with the discussion following each lecture, and the address by Professor James at the close were taken down and transcribed by a stenographer and type-writer, and after revision by Dr. Sherwood are, with the syllabus of the lectures, here presented in a volume that is believed to be as unique as it will be found entertaining and instructive to every one interested in the subject of money, and who is not?

The practical banker and financier who has achieved success at the counter or the desk, without aid from books, is, perhaps, too apt to regard with indifference, if not with contempt, the mere student of money and finance. Nevertheless, he cannot fail to derive advantage from reading the lectures of Dr. Sherwood; and the discussion following the lectures, while not always entirely relevant to the subject treated, serves to exhibit the various and often crude ideas entertained by many, and to powerfully illustrate the great necessity for a more general enlightenment upon the history and theory of money.

The book gives a fair idea of University Extension, so far as the treatment of one subject in a single course of lectures by one lecturer may illustrate it; and if it shall aid and encourage educators, bankers, and others throughout the country to undertake a like work, its publication will not have been in vain.

WILLIAM H. RHAWN.

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---

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## COMMITTEE.

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B. B. COMEGYS,  
GEORGE PHILLER,

WILLIAM H. RHAWN,  
*Chairman.*

# OPENING OF COURSE OF LECTURES.

DRAWING-ROOM OF THE NEW CENTURY CLUB.

WEDNESDAY EVENING, FEBRUARY 10, 1892.

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ADDRESS OF MR. WILLIAM H. RHAWN,

CHAIRMAN OF COMMITTEE OF BANKERS.

LADIES AND GENTLEMEN,—Upon behalf of the committee in charge, I desire to express to you the great gratification your attendance here affords, and to thank you for your presence and support in this somewhat novel movement. The course of lectures we are met to inaugurate under such favorable auspices to-night was suggested by Professor James, and it is a source of deep regret that he should be prevented by serious illness from being here to preside at the opening of a course in which he took so much interest. In his absence it becomes my pleasant duty to present those who will address you, but I am sure that it will be quite unnecessary to introduce to this audience any one so well and favorably known as he who will first speak to you, the distinguished Provost of the University of Pennsylvania, Doctor William Pepper.

## ADDRESS OF DOCTOR WILLIAM PEPPER,

PROVOST OF THE UNIVERSITY OF PENNSYLVANIA.

I ECHO most cordially the expression of regret that Mr. Rhawn has used in regard to Professor James's illness. He has indeed been very ill, but I am happy to say that he is improving, and trust he will soon be restored to his usual energy. I know that if it is a disappointment to us that he is absent to-night, it is a more keen disappointment to him. These questions are so close to his heart, and his interest in them takes the form of such earnest desire and effort to secure their proper presentation before thinking people, that this course of lectures, which, as Mr. Rhawn truly says, was suggested by him, is but the first of a series of similar courses intended to bring a clear presentation by able speakers of large practical questions before the public. I say his regret at not being here will be very deep, but it will be tempered by the knowledge that the announcement of the course has brought together so large and thoughtful an audience, and that we have the pleasure of seeing so many men who have made themselves distinguished in their respective fields of business life.

Mr. Rhawn has said that I should say a word as representing the University of Pennsylvania and University Extension. This course of lectures to be given is itself a University Extension course. But it is just of a piece with a great deal of the very best instruction that is now being given, certainly at this University, and to some extent at other leading colleges. There may be people who suppose the only thing a college president would have to say about the history and use of money would be something with reference to the diversion of a part of the available currency of the country to the institution he represents, but I am happy to feel that my own reputation in this city is such that no

one would suspect me of perverting this into an opportunity for any such sinister proposals.

The time has gone by, fortunately, when it was necessary to say a word in support of the claims of our colleges and universities upon the attention of our people. There was a time, and it is not so very long ago, when statistics showed that the colleges of the country were not in touch with the mass of the people, because the ratio of proportion between the number of students and the mass of the people was constantly falling. There were a great many colleges brought into existence, but the number of students in attendance bore a smaller proportion each decade to the mass of the public. That has been changed. It may now be asserted confidently that this ratio is rising; and any one who cares about the subject, and takes pains to look at the history of the institutions, is aware that, so to speak, they are as prosperous as any business institutions of the country to-day. So that, as to the future of college education in this country, I think it has passed the stage at which it was accused of being useless.

When one sees in the papers leading men who have sterling qualities that assure high success starting out to belittle college training as a preparation for the practical business of life, it seems to some of us a little difficult to understand their attitude. If they mean that a college course will not make a man a conspicuous success in every instance, we quite agree with them. I am sorry to say, having a certain number of boys myself, that I do not exactly know what course will assure conspicuous success. It is all very well to point to Benjamin Franklin and others as successful men without college education, and say, "Young man, you will not feel the need of a college education. Go to work in a printing-shop and you shall stand before kings." But, unluckily, such advice is not accompanied with any recipe for being born a Franklin. My own reply to such critics is that if a college education to-day is not a good thing for a business man, why, in the name of common sense, let us make it so.



I wish that those who speak of the value of a college education would take pains to familiarize themselves with it before they rush into print. A college education is not a fixed quantity. I do not think there is anything in the world to-day changing more than a college education. There were long years when it did mean the fitting for certain so-called learned professions, when it was Greek, and Latin, and mathematics, from morning to night, during all the years of college life, and that was the end of it. But any one who thinks that a college education stopped there, and has not undergone great changes and development, might as well imagine that Pullman cars did not exist. The whole thing has undergone a change that is quite as great as the change that has occurred in any single branch of your business activities.

I do not think that one can doubt that the attack upon Greek, made a few years ago, did a great deal of good, and that Charles Francis Adams deserves great praise for the frank, manly, and convincing way that he spoke on that point. I believe, also, that Andrew Carnegie speaks of an actual grievance in much of what he says in regard to college life, and that if college life has not in it the elements which fit men for the general business of the world, then college life is so far a failure.

The time has long gone by when the principal occupations of the educated classes were the ministry of the Gospel, the practice of law, and the practice of physic. There are to-day a score of professions, not yet as well recognized, but as necessary to society, as honorable, and in many instances more profitable than this old triad of professions, which is still, I know, sticking in the minds of many as the main purpose of college life. Some of you may think that we in this country have found some short way to success. But, at any rate, I do not think one has to watch affairs very closely to see that an ordinary business training does not secure success. What is the proportion of young men who enter an office, at the earliest age, and go through the old "taking down the shop-shutter and sweeping the floor" pro-

gram, that become rich, prominent, influential men? I do not suppose it is a fifth of one per cent. What has been the business experience of every man in this room upon this subject? If there is any source of life that will insure success we want to learn what it is.

These four years of college do take out a most valuable part of a man's lifetime, but I think that here in this country we have an overweening desire to see our young men at profitable business occupations as early as possible. I am entirely willing to admit that I think this question of getting our young men and our young women through college and into practical life at an early date is a vital one. All the professions are asking more preparation; we are going to make the study of medicine four years, law three years, engineering branches three years, architecture three years. All these professions are asking more and more. I think it is a mistake and a misfortune for our young men to be kept at school until they are eighteen, at college until twenty-two, and at a professional school until twenty-five. I think colleges should keep down the age of graduation so that a young man will be at the business of his life at twenty-three, or twenty-four at the latest. I dread the prolonged delay in entering active life where the opportunities for enjoyment are as wide-spread and tempting as they are in this country.

At the University we have advanced our professional teaching, but we are going to try to secure it without prolonging the course unnecessarily. While there is time taken, are we so sure that this time could be spent as well in going at once into the office or the shop, the bank or the railroad office? Whenever I have been on the continent of Europe in the last ten years, and notably within the last three or four years, I have made it my business to see some of the young men of Germany and France, and to ask them the effect of their compulsory military service that takes about two years out of their lives. If you want to see what the people of those countries think of educa-

tional training, look what republican France has done. Never has the world seen a more comprehensive and liberal program of higher education than has just been promulgated there. And is it not true that the military success of Germany has been achieved by the school-master's method,—that it has been by the drill, the education, the discipline, the study, the bringing into the ranks, from the lowest soldier up to the field-marshal, of the rigid educational method? Is not the commercial growth and power of Germany dependent upon the same cause? You will find even in our own country the same thing, where the higher salaries, in many instances, go to men of German education, because they have had a higher and better education, fitting them for responsible business positions at an earlier age.

I would not say that the study of lectures on the history and theory of money is going to impart to any young man or woman that curious gift which enables some people to accumulate great fortunes. This, I take it, is a separate gift as much as the artistic faculty, the poetic gift, or eloquence, or what you please. But I do say that a practical college discipline will fit the average young man and woman to do the business of life more successfully. That this is true I am as convinced as I am of my existence, for I have seen the instances multiply a thousand-fold, and the instances of failure are often predestinated and not to be averted.

I say that for our college education this time may be given, for the history of other countries where the struggle for existence is vastly harder than it is here proves that it may be given safely. If this time can be spared readily, and yet it appears that in our present college system it is not rendered as profitable in all directions as might be desired, let us turn to and try to make it so. Every one of you has it in his power to help. You know what one man here has done. Ask Joseph Wharton what he has done by the endowment of a single school at the University of Pennsylvania. He saw the need, as he thought,

in the educational system for a course of study which should be more especially adapted to the training of those who in the future expect to be business-men, men of affairs, administrators in banks and railroad offices, heads of business establishments, men able to organize, and who would have to learn to work with others and to acquire the confidence of their associates.

He embodied this conception in a highly interesting communication to the Trustees of the University, accompanying it with the offer of one hundred thousand dollars as an endowment of a School of Finance and Economy. His original program has been somewhat modified. It has been one of the very pleasant features of our relations with him that he has been willing to see this work adapt itself to the needs of the community as they were shown, and it has added distinctly to the efficiency of college training in supplying the needs of the community in this respect. That school, the Wharton School of Finance and Economy at the University of Pennsylvania, is brilliantly successful. Its success is in part due to the very able men who have filled its chairs. It is vastly more due to the prescience of Joseph Wharton in seeing that here was a part of this rich educational field as yet untilled.

There are other parts lying waiting which the business-men of this country may treat as he treated this part. I come back to where I started. Instead of decrying college education as though they possessed some alternative course which was a sure panacea for earning immediate and brilliant financial success, if they would address themselves to helping educators to change their course so as to make it meet more profitably the needs of the public, we should see in many directions equally good results as those which our friend, Mr. Wharton, has done much to encourage and develop. We should see similar foundations directed on this or on other lines which are clearly laid before us as needing opening, and very soon, I think, we should see in this country a movement of higher education as marked as that



which has led Germany to such magnificent triumph, and which, in the near future, when it is not going to be so easy to get three acres and a cow as it still is, is going to be required for our children and grandchildren to hold their own in the struggle of existence. The present course of lectures is only an indication of the line of thought.

I have spent far more time than was allotted to me, and will only say in closing to those who may not be so familiar with the purpose of such courses of lectures as this, that they are based on the plan of University Extension work. It is intended in each course to bring up before us the best and freshest teaching upon some large and living topics, at the hands of a recognized master of the subject, and Dr. Sherwood, who will give the course of lectures at Association Hall, is distinctly such a one as regards the subject of the present series. I hope his audiences will be equal to the occasion, and I trust that the class will follow this course of lectures closely, studying the collateral reading that he will recommend and preparing questions that will lead him to speak more fully on certain points; in other words, that the real intelligent educational spirit of such a movement will be appreciated, and that this course of lectures will have a degree of success which will thoroughly encourage others of similar character to be established in the future.

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#### MR. RHAWN.

WE are all greatly indebted to Dr. Pepper for his words of wisdom, and upon your behalf I beg to sincerely thank him for them. Doubtless the best-known and most important bureau of the United States Treasury Department since the passage of the National Bank Act, in 1863, has been the Currency Bureau, which has been ably administered by distinguished financiers,

one of whom is now President of the American Surety Company of New York, and has kindly come over here to speak upon "The Outlook for the National Banking System" in a manner that I feel sure will greatly interest you. I take pleasure in presenting the Hon. William L. Trenholm, late Comptroller of the Currency.

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## ADDRESS OF HON. WILLIAM L. TRENHOLM,

LATE COMPTROLLER OF THE CURRENCY.

LADIES AND GENTLEMEN,—I have been very much interested in listening to Dr. Pepper's remarks, but cannot refrain from expressing some surprise to find that in so cultivated, successful, and advanced a community as this it is thought necessary, at the end of the nineteenth century, to speak so earnestly, as he has done, in favor of a college education as a means to practical success in life. I had supposed that in Philadelphia that would hardly have been doubted, but I am glad, if there is need of such exhortation, that it has been made by one so competent to do it justice, and in a way that I am sure must prove effective.

When, a short time ago, I was asked to speak to-night, it seemed difficult to lay out precisely a line of thought for the occasion, because I had been for some years removed from immediate contact with Philadelphia, its people, and its business, and I hardly knew exactly how to take up again the broken threads of association. Dr. Pepper's address has fortunately given me what actors call "a cue," and I hope you will allow me to take up his line of thought and, beginning where he has stopped, speak of colleges and universities as institutions which supply for the community at large a body of men prepared to deal with the ever-increasing crowd of fresh problems in our civilization, our social life, and our business, and fitted, as they cannot be fitted except by collegiate training, for marking out

the direction that public thought should take, and guiding and aiding discussion, and subjecting to the tests of exact logic the new ideas and theories that every day brings forth.

It is necessary to maintain in every community a body of college-bred men, because the tendency now is towards specialism in practical matters, and the effect of specialism is to contract the scope of individual meditation and to confine within narrow limits the observation, the knowledge, and the intellectual activity of our most successful men. The competitions of modern life bring prizes to the scientist, but philosophy no longer enriches her votaries.

In selecting as my subject "The Outlook for the National Banking System," I had it in mind to say something in the same direction, because this system is an object of national interest and care. The national banking system of the United States comprises those elements of every community throughout this country which represent the most progressive, the most successful, and the most important of all the agencies of our wonderful industrial organization. In our day and country an industrial community without a bank would be as much an anachronism as a great manufacturing establishment without modern machinery. The bank is the nucleus of all business, it is the initial or the objective point of every industrial effort and every commercial achievement. Our national banking system, therefore, has become a vast vested interest of our country. Its value is almost incalculable and certainly could not be put into figures, because figures cannot express all the relations in which these institutions stand to the communities which are dependent upon them.

Now, the national banking system draws the breath of its life from Congressional legislation. Every session of Congress is a threat to the national banking system, and every adjournment of Congress is felt to be but a reprieve. The news of to-day emphasizes this: in the Senate the Committee on Finance has decided not to report a bill in favor of the free coinage of silver;

in the House the Committee on Coinage, Weights, and Measures has decided to report such a bill. Now, to the ladies present, and perhaps to some of the gentlemen present, it may not seem a very important thing to the national banking system whether a particular committee of Congress reports in favor of the free coinage of silver or against it; but the principles which are involved in that question of the adoption by this country of the free coinage of silver at the present time are principles which strike down to the very roots of all our banking, commercial, and industrial institutions. The intrinsic value of our monetary unit is threatened, and this strikes at the fortunes of individuals; it affects the value of investments, the relations between laborer and employer, the relations between the banker and his debtor, and, more seriously than in other cases, the relations between the banks and those who are depositors in the banks.

Now, if the universities and colleges in the United States had twenty years ago established professorships where the history and theory of money, as it is set down in this program, could have been taught and studied, I think the national banking system of the United States would to-day be resting on a foundation of very great solidity, and that there would be no danger that any Congress would pass any measure that would impair the value of so important a system. The banking system is not now secure, because the men in Congress who are urging various schemes of financial legislation have not been educated in this particular line; they have not been taught the history and the theory of money; they do not understand the nature and the import of things they are meddling with; they do not comprehend the scope and the irresistible force of the influences which they are setting in motion. Worse than this, their constituents are likewise lacking in such knowledge, and do not know when their representatives are misled.

A college or a university which sets itself to work to teach the history and the theory of money may be viewed in the light



in which Dr. Pepper has presented it to you, very properly from his point of view, as an institution to which you should send your sons in order that they may be better fitted to advance their material success in life ; but I should like you to look upon it also as an institution which should be maintained by the contributions of the financial, the commercial, and the industrial institutions of the country, and of those who have made fortunes out of them, or who have fortunes invested in them, because the very surest foundation that you can lay for everything that you are engaged in, and everything that you have invested in, and for the permanency of the value of the estates which you expect to leave behind you, is by educating the youth of the entire country in the science of political economy.

Education in this particular subject—the history and theory of money—is what this country to-day stands more in need of than it does of any other thing in the whole sphere of human knowledge or thought. We stand to-day in great peril because those who have been elected to legislate for us, those who are carrying on our government, have not only lacked the advantage of the kind of education which this series of lectures is intended to offer to the youth of Philadelphia, but they have been mis-educated by the course and the results of our legislation. When we take a close view of the national banking system we shall see that the laws establishing and governing that system are responsible for some of the dangers which now seem to menace it. When the national banking system was first established, doubts as to the constitutionality of the law were removed by pointing out that under that clause of the Constitution which gave Congress the power to legislate on the subject of money, Congress could create a system of banks, provided that system of banks was to be made the means of issuing currency. It will be seen, therefore, that the entire constitutionality of the laws on which the national banking system rests, depends upon their being and remaining currency-issuing, note-issuing institutions.

The necessities of war suggested that these issues of notes should be predicated upon government bonds; and in course of time, after the pressure of the war was over, the convenience of the public, and more particularly the convenience of administration, brought it about that the banks were relieved from the obligation of providing for the redemption of their notes through agents of their own selection, and a law was passed prescribing that the notes of national banks should be redeemed at the Treasury in Washington. This legislation, coming as it did after the country had become familiar with the issue of the government due-bills called "greenbacks," educated the people of the United States into the idea that their paper money should come from Washington, and that they should look only to Washington for its redemption.

Education in money matters and in business matters is not acquired in colleges alone. The people are educated by the practice of those who are carrying on their business, and the national banks have done a great deal towards educating the people all over this country in very good business practices, in very excellent and conservative ideas as to business management. They have also done a great deal in educating men to be good and safe bankers, and they may have done something towards educating the public in the theory and the history of money; but it is owing to the very success of these banks that the public has come to accept it as a safe principle that all their paper money should issue from Washington, and that they should look to Washington alone for its redemption.

The application of that mistaken deduction from the national banking system led to the issue of coin notes. People naturally thought that if the government could be trusted to hold its own bonds as security for national bank notes it might be trusted to hold silver dollars against certificates.

The national banks themselves have been unwittingly, unconsciously, and, in my judgment, unfortunately educating the

people and preparing the public mind for the very thing that is now threatening them. The moment the public began to get tired of the weight and inconvenience of carrying about these silver dollars, it was easy enough to suggest, "We will keep the dollars in Washington and we will issue paper certificates against them." The public was pleased, the inconvenience passed away, we soon began to think that one paper dollar was as good as another. We did not calculate that the national bank note was the best piece of paper circulating in the country; that next to that came the silver certificate; and last of all the greenback. The law had inverted the order; the law had said national bank notes must be redeemed in greenbacks; the law had educated the people into the idea that the greenback was a better piece of paper than the national bank note, whereas the national bank note is the best piece of paper in circulation. The four-per-cent. bonds have been as high as one hundred and thirty, and have never been under one hundred and fifteen; but these bonds are taken at ninety as collateral for the national bank notes, which have, besides that collateral, the statutory obligation of the government to take them up if any holder wants the money, to redeem them and look to the bank for payment; they have, moreover, a first lien on all assets of the bank, superior to the lien of depositors and other creditors, superior to the lien of stockholders. Therefore, the national bank note is the best piece of credit paper that was ever put out in any country and under any conditions, while the greenback is merely an unsecured due-bill of the government.

Now, our laws have inverted the true, philosophical, scientific relation between the national bank note and the greenback by saying that the national bank notes must be redeemed in greenbacks. It was a wise, a most ingenious and successful measure on the part of Secretary Chase to put the greenbacks, which were then somewhat discredited, upon a very high plane of credit; it was a great achievement in financial administration;

but at the same time it was a solecism in the science of money, and, like all successful falsehoods,—I do not know any other term for it,—it has bred harm, and will continue to breed harm until it is corrected and contradicted.

So I say it is all the more important that you should have in the colleges and schools of this country professorships for the teaching of the history and theory of money, because our laws and our daily habits and our daily practices are impressing upon us wrong ideas of these things, and these wrong ideas are leading to dangerous measures in our legislation. You need to educate not only the men who are going to become bankers, but you need to educate in the history and theory of money the men who are going to be members of your Legislature, members of Congress, and, most important of all, editors of your newspapers and teachers of your people in the schools. You will thus make these men sources of right information and of beneficial influence in the communities in which they reside, for in every community there are one, two, or three thinkers whom their neighbors are accustomed to consult about such matters, and who thus have an opportunity of impressing their opinions upon those around them. In that way public opinion is formed.

We have not been teaching these things in our schools and colleges generally, and yet we need knowledge of them in this age and country much more than they were ever needed before, because never in any age, never in any country, has every interest in the whole land been so absolutely dependent upon the continuity of industrial activity. Every part of this country is alive with industry. All industry depends for its successful prosecution upon the exchange of the products of one man's labor for those of the labor of other men. There must be an endless interchange, and that endless interchange is carried on by means of money, and the banks are the instruments through which alone money can be utilized for carrying on those exchanges. There is hardly a man in this country who is not dependent upon



industry and industrial interchanges for his daily bread, and I do not except capitalists,—that is, the men who live on the money which they get from their coupons and dividends. Everybody, man, woman, and child, is dependent upon the continued, uninterrupted activity of our industries, represented by our transportation interests; by our manufactures; our agriculture; our mining; our commercial enterprises. No one makes all the goods which he himself consumes; we are all dependent one upon another, and money constitutes the only means by which these exchanges can be effected. The banks apply this means to that end, and the entire banking system of this country is to-day, more than it has ever been, under the direct influence of Federal legislation.

Before the establishment of the national banking system there never was a time when Congress could have passed a law which could have seriously hurt the banking or commercial interests of this country in the way in which a law now passed could hurt them; hence, every year it becomes more and more necessary that our banking laws should be wise and prudent, but we cannot have them so until the people become instructed, because our members of Congress cannot be held to an intelligent accountability by their constituents, unless their constituents understand better than many members of Congress now do what will be the practical effects of any legislation proposed.

Now, to show how little the importance of this whole subject of money is understood by the best men of this country, I received a letter, a day or two ago, from a member of the Committee on Coinage, Weights, and Measures, complaining that during the whole of this session of Congress there has been no protest from the banks, or bankers, or the commercial classes of this country against the proposed measure for the free coinage of silver. For weeks that committee has been ready to hear all who should come before it, and none have come. There have been delegates there from the association, or company, or whatever it is, got up

by the silver miners, and all the information that that committee has received has come from that side. Our business-men seem to be apathetic, and do not seem to apprehend the importance, the seriousness, of this matter, and yet it is a very serious and important matter.

Therefore, in speaking of the outlook for the national banking system, I think that every practical banker, if he will think about it and look far ahead, will agree with me that the future of that system depends entirely upon the character of Congressional legislation, and also that if Congressional legislation is to be directed aright by public opinion, our newspaper editors ought to be men instructed in the history and the theory of money, and that every private individual, every banker, every educated man who does understand the history and theory of money should set his mind actively at work upon the questions of the day that relate to that subject, and should, each one within his own sphere and in every way in which he can, try to teach and direct public opinion around him in safe, prudent, and beneficial directions.

Ladies and gentlemen, I am very much obliged to you for the attention with which you have received my remarks.

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MR. RHAWN.

UPON an occasion like this, which has had its origin in that important branch of the University of Pennsylvania, the Wharton School of Finance and Economy, which is deservedly attracting more and more the attention of those everywhere interested in the higher education of business-men, through the effort of the American Bankers' Association to graft the Wharton School idea upon our universities and colleges, it is fit that we should have present with us the founder of that noble school, Mr. Joseph Wharton, who will now address you upon the subject of "The Unit of Value."

## ADDRESS OF MR. JOSEPH WHARTON,

FOUNDER OF THE WHARTON SCHOOL.

MR. CHAIRMAN,—Before beginning to speak upon the subject announced, I wish to corroborate in a word what Mr. Trenholm has just said in relation to the necessity of a more instructed public opinion concerning the functions of money and concerning the legislation which affects and governs the uses of money.

What he said in regard to the apparent apathy of the businessmen and bankers concerning legislation also struck me forcibly; for when, at the time the last Congress was discussing the silver question, I suggested to some of the leading bank presidents of Philadelphia that there should be some concerted action taken by the banks to express their disapproval of the dangerous proposition then pending, I was surprised to find them unwilling to interfere, thinking that they would not be listened to with respect, and that on the whole they had better stay at home.

Again this winter there are similar questions before Congress; again I have mentioned to some of the bankers that they could hardly afford to pass these things by with no expression of their opinion; and again I find the same feeling that they would not be welcome, and that their best course was to be modest and retiring, and say as little as possible.

I sympathize with them, because it has fallen to my lot upon several occasions to speak to Congressional committees, and I have found that even when most of the members of a committee were disposed to listen respectfully, there were generally some who were inclined to cheapen, and to impute selfish motives for what was said. It is unpleasant for persons holding public positions as do bank officers,—for I think a bank officer who understands his business looks upon himself not as merely the agent of a private corporation, but also as performing important and

delicate public duties,—it is surely unpleasant for them to find that their well-considered opinions are not received with the respect they are entitled to.

Yet I think the public welfare demands that, in some way which they best know how to devise, the banks of this country should take counsel together, and from time to time impress their views upon our national legislature.

The subject upon which I have undertaken to speak to-night is a little abstruse, not particularly interesting, and, in fact, rather dry. Pray, therefore, be indulgent.

#### THE UNIT OF VALUE.

No member of a civilized community can be expected to know all the steps by which the civilization in which he participates was attained. It is much if he knows, more or less imperfectly, those particular steps which relate to his own special profession, trade, or function, so as to understand the basis upon which it rests; for most persons appear to care little how things came to be as they are, so long as they can maintain themselves by using without question the tools or facilities that have come into their hands.

Of those who seek to know the reasons of things, some grope foolishly to absurd and misleading conclusions, while others march firmly to the conquest of sound and fruitful truths, according as their minds are shallow and superficial or sagacious and philosophical. Naturally, the one class, whether individuals or races, sink into misery and degradation, while the other class rise to prosperity and dominion.

When, for instance, the inquisitive Hindu was told by his countrymen that this great earth is flat and square, supported at each corner by a huge elephant, he was fain to be content until the tormenting doubt arose, "Upon what do those elephants rest?" When this was answered, "Each elephant stands upon an immense tortoise," he asked no more.



To myriads of untrained minds, with small experience, or store of facts, or power of following abstruse demonstration, this solution of a great question was easier to grasp and was more satisfactory than the conception of our earth as a stupendous free globe, poised in open space without support, but held in its place and in its course by the subtle invisible attraction of other, far remote, globes, and by a mysterious original impulse.

Now, chief among the stepping-stones by which civilization has advanced are the units, those standards of comparison by which dimension, time, weight, force, or value are to be estimated. We carelessly make use of these fundamentals, we think in the terms of them, we can scarcely imagine existence without them, yet they are not natural entities, but only artificial conventional ideas, established mostly after long doubt and conflict.

We must not now dwell upon the seductive themes of the establishment of measures (not measurers) of time, or of dimension (including the struggle between the metre and the inch), or of its related weight, or of force (such as the new electrical terms), for our sufficient subject at present is the measure or unit of value.

We hear of the pound sterling, the dollar, the mark, the franc, the rouble, the rupee, as units of account in various countries, and we know that the vast incessant transactions of commerce and finance are measured, carried on, made possible, indeed, by means of them. But what are they? Are they also units of value? How came they to be what they are? Can a nation have two or more diverse units of value? Can a nation easily change its unit of value by legislation or otherwise?

It may seem that these questions can be completely answered in a few short phrases. Let us investigate a little.

*Question.*—What is the pound, or pound sterling?

*Answer.*—The pound sterling is the British money term or unit. Everybody knows what a pound is.



*Question.*—But I am not British, and I want information. Did you ever see a pound? Is it something tangible?

*Answer.*—Certainly. It is a gold coin worth nearly as much as our half-eagle: about four dollars eighty-six and two-thirds cents, to speak more precisely.

*Question.*—You say the pound is a gold coin worth nearly five dollars. Why is the pound worth so much? what does its value rest on?

*Answer.*—Its value rests on the fact that it contains just enough gold to be worth a pound.

*Question.*—But how does that quantity of gold come to be worth just a pound?

*Answer.*—Oh, come now, you are pushing too far. How can I tell? Everybody knows it is worth a pound.

There we get down to the four tortoises, and research on that line ceases. The simplicity of the Hindu method leaves much to be desired.

Our ready answerer, of course, went astray when he confused the pound sterling with the sovereign, though the latter was most accurately made to contain just a pound's worth of gold. But, on the other hand, he was very near right—that is, near to expressing the scientific truth—when he said that “everybody knows” the coin to contain just a pound's worth of gold.

It might naturally be imagined that the pound sterling, the abstract unit of account, is merely the symbol of the concrete, solid, coined golden sovereign. But this is exactly the reverse of the fact, for the concrete sovereign is simply the tangible symbol of the abstract pound; it is the thing by which a pound debt may lawfully be paid.

The sovereign, the recently established representative unit of value, was made expressly, with most assiduous care, to correspond accurately with the pre-existing pound, then and now the chief British unit of account, which had for many years been

thoroughly familiar as such to all persons living on British ground or dealing with Britons.

Our present quest does not include the changes of the ancient pound sterling, its original correspondence with a pound of silver, its diminution through successive degradations of coinage, until it had become two centuries ago the stable and definite unit of account above mentioned, with fixed and well-understood relations to the exchangeable values of commodities. But we must remember, and I therefore explain more fully, that when in 1816 the sovereign, the unit of value, was first coined, it was carefully ordained to contain exactly that quantity of gold which the abstract pound, the unit of account, would then purchase; that quantity being 123.274447 grains of standard gold containing 916.66 parts of fine gold to the one thousand, which weight and standard still rule for the sovereign, the British unit of value, the most universally diffused and trusted unit of value in the world.

This exquisitely fine precision of value is of course not practically attainable, even when the coins are new, and they naturally lose weight by abrasion, so that any sovereign not worn down to a less weight than 122.5 grains may still be regarded as a unit of value, because it is still legal tender for a pound.

Thus the visible, palpable, metallic disk, the sovereign, the concrete unit of value, is but a rude, inaccurate thing beside the abstract, delicately accurate unit of account, and the latter is in a high sense more real, fixed, and substantial than the former.

To revert now to our simile of the globe poised amid contending attractions and impulses, this unit of account which the golden sovereign seeks to embody does not rest upon the sovereign nor upon any single basis or support. It is held in its just place by the infinitely various influences of man's desires for commodities and services, pulling in every direction, which have come to be referred to and to be expressed in terms of this abstraction. Legislation did not bring this about, but merely gave

formal expression and sanction to the accomplished fact, when it sought to make a metallic representative of the abstraction.

When we come to consider our own dollar, we find a quite different origin for the unit of account. In this country, during its colonial period, great confusion of money systems and of coins existed which, after the establishment of a national Congress, had to be replaced by uniformity of some kind. After discussion of sundry projects for departing as little as possible from the various kinds of pounds, shillings, and pence of the several colonies or States, and for utilizing the Spanish dollars and other foreign coins then in use, an act was passed in April, 1792, declaring "that the money of account of the United States shall be expressed in dollars," and in dimes, cents, and mills, or tenths, hundredths, and thousandths of a dollar, and that all accounts in the public offices and courts shall be kept in such money.

Thus the establishing here of our unit of account differed from the British method in being directly by that law of 1792 instead of by custom; the same law provides for making gold and silver coins in the ordinary way, fixing their weights and fineness.

It is unnecessary now to speak at length of the units of value of other countries,—rouble, rupee, franc, or mark. Each of these is a representative disk of silver of fixed standard and weight, meant to have what is frequently but loosely called intrinsic value, more properly exchangeable value, accurately corresponding to the unit of account in its own country, though in the country of the rouble at least, the paper rouble, three of which can be had for two silver roubles, has become the unit of account.

The question of "intrinsic" value is closely intertwined with that of the possibility of two units of value in the same country,—namely, one of gold and one of silver,—which of late years presses so constantly upon our attention. In each important civilized country, coins are made of both gold and silver, all of which coins pretend to have intrinsic value equal to, or in the case of silver nearly equal to, their respective denominations in money

of account; in many of these countries more or less trouble has at times arisen, because the statutory ratio of "intrinsic" value between gold and silver has come to be out of harmony with the exchangeable or commercial ratio of value between them.

Now, there is no law of God or of nature to declare or to determine the value of gold or silver; the "intrinsic" value of either is simply what it will sell for at the time; in other words, is its commercial price in terms of the money of account.

We have seen that by the act of Parliament of 1816 a certain quantity of gold, being just what the unit of account would then buy, was fixed as the unit of value; this was done not because the government of Great Britain for the time being so willed it,—this was no case of "*sic volo, sic jubeo*,"—but because, as Lord Liverpool, the author of the measure, said in his famous treatise, "Gold coins are now become in the opinion and practice of the people the principal measure of property." The intrinsic value of gold thus was and still is simply its value in the common opinion of the people.

But if this is the case in regard to gold, more clearly is it the case in regard to silver; not more really, but more perceptibly so, because the price of silver is habitually stated in terms of gold. Gold has come to be, not in England only, but in all Europe, in all the most enlightened countries, "the principal measure of property, in the opinion and practice of the people." It is in all of them the unlimited legal tender for debt. There is not anywhere a question as to its absolute fitness, in coin of fixed fineness and weight, for the function of measuring property as the unit of value; and this conviction, so long and so universally prevalent, may fairly be regarded as one of the fixed mental landmarks or traits of civilized man. The values of all commodities, all services, all moneys even, are ultimately referred or are referable to gold; not only is this the case, but the pretence is held up in all the most important countries that any creditor may at any time demand and receive gold for his matured credit.



It is, of course, impossible to make actual payment of all debts in gold, and in fact but a minute fraction of them is ever demanded or paid in gold; yet the maintenance of gold solvency, of readiness to pay in gold all that is so demanded, has a regulating and confidence-begetting effect that can hardly be overvalued. So highly is this wholesome effect estimated that one country after another has, at heavy cost, acquired gold enough to serve as basis for its gold solvency, a process which has resulted in a general scramble for gold and in the establishment of a gold scarcity. There is distinctly not enough gold in the world to suffice for the maintenance of universal gold solvency upon any basis shown by experience to be safe.

Under these circumstances it would obviously be most desirable, if practicable, to supplement the inadequate gold by using the superabundant silver as basis for solvency; and it might seem that this should not be difficult, seeing that silver has from remote antiquity served as money, and that even now a large part of mankind desire no better money.

Can we not, therefore, have two distinct units of value, the one of gold, the other of silver, possessing equal "intrinsic" value? Let us consider.

If any other thing than a gold coin of established fineness and weight is to be used as unit of value and as unlimited legal tender, that other thing must, until the fixed opinions of all the most civilized peoples undergo complete change, be freely convertible at the holder's pleasure, and at an established ratio, into gold coin. In other words, the world will absolutely not consent to displace and abandon gold as money, and will only accept substitutes for it on condition that the substitute shall be so convertible or exchangeable.

Paper money, or fiduciary money of any kind which is not in fact as well as in law so convertible, simply fluctuates in exchangeable value to the point where public opinion from time to time holds that it ought to stand, whether that be one hundred

and one-quarter of paper to one hundred of gold (signifying merely some slight delay or inconvenience in the conversion), or two hundred or more of paper to one hundred of gold (signifying present impossibility of conversion, with varying degrees of doubt as to ultimate conversion).

Clearly no one can desire that silver, if adopted as a second unit of value and as unlimited legal tender, shall suffer such depreciation and fluctuation, for that would defeat the purpose. The projected silver unit must be absolutely and of itself acceptable, not as promise to pay which our base coins are, but as final payment; it must be equal in rank and legitimacy to the existing gold unit of value. The monarchy of gold must be replaced by a duarchy of gold and silver, and these two kings on one throne must never disagree.

It may at once be conceded that if the market value of silver in terms of gold were determined with the scrupulous care exercised by Lord Liverpool in determining the market value of gold in terms of money of account, silver coins might be made and be utilized as legal-tender money to any extent. *Provided*, that the ratio thus found to exist between gold and silver should remain unchanged. But this distinctly indispensable proviso throws the whole scheme into doubt, because the ratio undergoes constant changes corresponding to the changes of public opinion touching the relative values of the two metals, which changes of opinion correspond generally to the changes in their relative costs of production, and have hitherto been found unavoidable.

The late Henry C. Carey long ago pointed out that the present value of any commodity is (or approximates) the cost of reproducing it; that is to say, the cost of producing a similar commodity. Thus the present value of a certain specific thousand tons of pig iron is not necessarily the sum of money which that specific thousand tons cost, for they may have been made from lean ores, in an old-fashioned and badly-located furnace

with costly fuel. The buyer of pig iron, finding that he can purchase another thousand tons made from rich ores with cheap fuel in a well-placed modern furnace for half what the first thousand tons cost to make, cares nothing about the cost of the first thousand tons, and will give for them no more than the price at which he can buy the second: the value of the first is obviously no more than the value of the second.

This illustrates what has taken place in regard to silver; for the cost of producing silver has, by reason of the working of lately-found ore deposits and of better processes, greatly diminished in recent years.

Granting that the old ratio of fifteen and one-half ounces of silver to one ounce of gold was the fair ratio a hundred years ago or fifty years ago, and that for a few years during the vast output of gold in California and in Australia even less than fifteen and one-half ounces of silver seemed equivalent to one ounce of gold, it is indisputable that on the basis of market values the fair ratio is now about twenty-three and one-half to one.

Those who urge the establishing by our government of a second or silver unit of value upon the ratio of sixteen to one, contend that this depreciation in the market value of silver arises from the recent disuse of silver as money. Without denying that the demonetization of silver in all the great civilized nations has strongly tended to overload the market for silver and thus to depress its price, it is clear that only the forbearance of those nations from selling their silver has prevented a much greater depression. But quite independent of all this it must be distinctly remembered that the relative costs of production of gold and silver are now such as to indicate even a much higher ratio than twenty-three and one-half to one.

Mr. Roberts-Austen, chemist and assayer to the Royal Mint, estimates that the average cost of producing an ounce of gold is about fifty-one times the average cost of producing an ounce

of silver; while Mr. Marble, President of the National Bank of California, estimates the cost ratio to be in the United States 39.3, in Mexico 55, in Central and South America 60. Other writers have reckoned that in California and Colorado an ounce of silver can be produced for about one-eightieth of an ounce of gold. Under these circumstances, how can it reasonably be hoped that silver can be held to a ratio of sixteen to one, or even twenty-three and one-half to one?

If all the nations of the world should agree to establish a new ratio of say twenty-five to one, and silver should be poured out from the mines of a few of those nations in practically unlimited quantities at a cost of one-fiftieth the cost of gold, so that a huge profit would accrue to those silver-producing nations by taking gold from the other nations at the established ratio of twenty-five to one, how long could that ratio last? Not even the silly United States, if it were a non-silver-producing country, would long suffer its gold to be taken away for half its value in silver. No convention, no treaty, nor any form of covenant would avail to maintain permanently a state of things so artificial and so ruinous.

It may with entire propriety be urged that the relative values of silver and gold are not fixed by the relative costs of their production at any one time; but rather, since they are imperishable, and vast accumulations of each exist, by their average relative costs during all the ages. With equal propriety may it be urged that the time may come when the constant relative decline in the value of silver will be arrested. No one can safely assert that the early yields of gold in California and Australia will not be equalled or surpassed by future yields in Africa or South America.

The first of these propositions is more plausible than real, for if mankind should become convinced that silver will always hereafter be produced for one-fiftieth the cost of gold, no consideration of past or average costs could hold silver at one-twenty-fifth



the price of gold. The second is perfectly reasonable, and I am quite inclined to hope for such new sources of gold, resulting in great accessions to the world's basis of solvency, and in enhanced prices for silver as well as all other commodities.

But this hope scarcely justifies the attempt to establish a second or silver unit of value, in the face of our experience that the relative values of gold and silver oscillate widely. Indeed, by exhibiting the chance of a wide fluctuation in the contrary direction from that of recent years, it emphasizes the inherent unreasonableness of attempting to have two dissimilar units. A circus rider can get on well enough with his two feet on two separate horses, so long as his well-trained beasts maintain the same speed; but how can he escape a fall when their speeds greatly vary? and how is the matter mended if, instead of one horse always running faster, first one horse should dash ahead and then the other?

We are irresistibly forced to several conclusions: (1) that the general opinion of mankind now estimates the relative value of silver to be much less than its old value of fifteen and a half to one of gold; (2) that the value of silver still has a strong downward tendency; (3) that no attempt of one or more governments to maintain a fixed ratio between gold and silver is likely to succeed, because (4) the relative costs of production of the two metals form a ratio subject to wide fluctuations.

The audacity of all the producers of a certain commodity combining together to demand that this government should purchase their entire product at one-half or one-third higher price than it is worth, or can be sold for, is sufficiently absurd; yet the silver men demand this on the ground that silver once was worth the price they ask, and ought to be worth that price now. How would the nation tolerate a demand from the pig-iron producers that the government should buy from them all their output, and this not at current prices, but at the much higher price of a century back?

The further absurdity and the vast injury of unsettling all transactions by introducing another unit of value are lightly regarded by these gentlemen. They assume that two kinds of lawful-measure yard-stick, one having a third or a half greater length than the other, would cause no inconvenience in trade, and that those who doubt this must not be listened to, because they are "gold-bugs." They shut their eyes to the fact that all our international or external trade must in any case be done on the basis of a gold unit only. And they are willing that in all our exchanges of gold and silver with foreigners we shall be obliged to take by the short yard-stick, and shall be obliged to give by the long yard-stick; that we shall give one and a third or one and a half, but receive in return only one.

Let us observe with some care how this important traffic would occur under the projected free-silver coinage law. That so-called "Bland bill," now pending in the House, provides that "the unit of value in the United States shall be the standard silver dollar as now coined, consisting of  $412\frac{1}{2}$  grains standard silver, or the gold dollar of 25.8 grains standard gold." This would establish the ratio of sixteen to one; but the bill provides that, when France reopens her mints to the free coinage of silver in the ratio of fifteen and a half to one, the same ratio shall be established here by making the silver dollar to weigh 400 grains.

The bill further provides that "any holder of gold or silver bullion of the value of one hundred dollars or more, of standard fineness, shall be entitled to have the same struck into any authorized standard coins of the United States, or the owner of the bullion may deposit the same at such mints and receive therefor coin notes equal in amount to the coinage value of the bullion deposited."

The silver coins and the coin notes thus issued would be legal tender; the provisions of the law of July 14, 1890, not being repealed by the Bland project, would continue in force,—namely, that notes would be redeemable in gold or silver coin at the dis-

cretion of the Secretary of the Treasury,—“it being the established policy of the United States to maintain the two metals on a parity with each other upon the present legal ratio, or such ratio as may be provided by law.”

The Secretary has held it to be his duty under the existing law to give gold on demand in exchange for the existing silver certificates, which else would surely have become discredited and have sunk below par, perhaps to a point corresponding to the current value of the silver they represent. The silver men intend that this condition of things shall continue; that the new coin notes issued by the Treasury at the rate of one dollar for  $412\frac{1}{2}$  grains of standard silver, now worth 17.55 grains of standard gold, shall be redeemed by the Treasury on demand at the rate of 25.8 grains standard gold for each paper dollar.

This nation would, therefore, be bound by law to purchase all the silver in the world, giving for it at present prices in gold nearly one and a half times its value, because all foreign as well as all domestic holders of silver would be entitled to send it to our mints, receiving for it coin notes at the rate of one dollar for each  $412\frac{1}{2}$  grains of standard or  $371\frac{1}{4}$  grains of fine silver, and to take from our Treasury for each such paper dollar one gold dollar of 25.8 grains of standard, equal to 23.22 grains of fine gold.

Of course, our attempt to play this gigantic bluff on behalf of our silver producers would fail; instead of marking up the price of silver throughout the world and winning back in advantageous exchange for silver the gold we have been exporting, we should be forced to further losses of gold sent out to pay at absurdly high prices for the discredited hoards of silver now held in foreign countries. Of course, also, this would soon end in our national bankruptcy, for not only have we no adequate fund of gold with which to buy the foreign silver hoards, but we have already outstanding gold obligations of the United States, payable on demand, for \$840,000,000, and have only \$120,000,000 gold with which to meet them.

The additional gold obligations which Mr. Bland and his associates would lightly run us into by opening our mints upon a false ratio to all the silver of the world would, besides bankrupting the United States government as has been shown, inevitably bring on calamitous, world-wide disturbance of trade and finance. In the apprehension by the gold-unit countries of this catastrophe, we find a principal cause of their willingness to meet us in a conference upon the silver question.

A Bland bill may promise them the great advantage of a prompt market for their unavailable silver, but that advantage could not be largely realized before our bankruptcy, and the resulting general dislocation of all business would far more than sweep away their gains. For this reason, independent of their several domestic necessities, we may reasonably expect the sincere assistance of the great gold-unit nations in any reasonable endeavor we may make to find a correct solution of the remarkable problem which our recent opulence in silver sets before us and before the world, a solution which is likely to be found in the direction of new or increased uses and outlets for silver, including particularly its much larger use in this country for subsidiary coins, rather than in the direction of attempting to make of it a second unlimited unit of value.

It is, however, conceivable that in such a conference it might be adjudged wise to attempt the establishing of a new ratio, adapted to present conditions, between gold and silver, as well as the opening of the mints of all nations to the free coinage of silver on the new basis, and the making available of the new ratio silver, in some fixed proportion, as metallic reserve and basis of solvency.

Should that momentous conclusion be reached, it will be our duty, notwithstanding our misgivings, to do honestly our part toward making the great experiment successful.



## MR. RHAWN.

It is with inexpressible sadness that I now allude to the fact that one of the speakers whom we had hoped to have with us was another of those eminent financiers who have so ably presided over the Currency Bureau, whose letter, not yet a week old and possibly the last he wrote, I hold in my hand. I refer to the Hon. John Jay Knox, the late President of the National Bank of the Republic, New York, the sad intelligence of whose death in New York City yesterday was announced in our papers this morning. As late as it is, I feel that something is due to his memory upon this occasion, and at my earnest request the present distinguished Comptroller of the Currency will speak of him. I therefore have the honor of introducing to you the Hon. Edward S. Lacey.

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## ADDRESS OF HON. EDWARD S. LACEY,

## COMPTROLLER OF THE CURRENCY.

THE death of Mr. Knox has taken from our midst one of the best-equipped bankers that this country has ever known. He has exhibited in his career the value of the education which Dr. Pepper outlined to you a few minutes ago. Mr. Knox graduated at Hamilton College, at the age of about twenty years. For forty-two years he was a practical banker, and for some seventeen years he was Comptroller or Deputy Comptroller of the Currency.

He belonged to a family distinguished for its intellectual ability and for its high character, and was conspicuously well equipped both mentally and physically. When we consider the completeness of his education and his unusual facilities for acquiring the details of bank management, both in the East

and in the West, and from the broader point of view as in some sense the director-general of the entire national banking system, it will be conceded that no man in this country ever had greater facilities for perfecting himself in both the theory and the practice of banking than the Hon. John Jay Knox.

In those eventful years following the panic of 1873, when financial heresies of the most malignant type swept over the land like an epidemic, I myself was a young banker in a Western State. I remember how little those who had been accustomed, upon the stump and in the press, to instruct the people as to the issues involved in ordinary political campaigns, knew about the financial questions that were then being discussed; the political orators and editors were utterly unable to meet the assertions of those who alleged that the government could create money by its fiat. With one accord the public mind turned towards Mr. Knox as the one most capable of furnishing the facts necessary to successfully combat the adherents of fiat and inflation.

The reports of the Comptroller of the Currency, which up to that time had been formal, cold, and unread, all at once assumed a broader character. Mr. Knox increased their scope and invested them with a new interest. He not only set forth the operations of the bureau, but he commenced discussing the theory of finance and the science of money. If you will examine the reports made subsequent to 1873, you will notice how rapidly they grew in interest and importance. Mr. Knox filled them with financial essays and statistical matter of the most valuable character, and they became text-books in the hands of those who were giving direction to public opinion in the various cities and hamlets of the country; and so Mr. Knox became one of the most conspicuous figures in that memorable campaign which resulted in our turning back the invasion of the fiatists and delivering this country from what threatened to be a terrible disaster.

Mr. Knox's first connection with the Treasury Department, if

I recollect aright, was in 1866. At that time there was no Mint Bureau, but he had charge of the correspondence of the Treasury Department in relation to mint matters. In 1867 he was appointed Deputy Comptroller of the Currency, and in 1872, by President Grant, he was made Comptroller of the Currency. He was twice reappointed, and in 1884 resigned to take the position of President of the National Bank of the Republic, in New York City.

He was a graceful writer and fluent speaker, and a man who, at all times and in every emergency, appeared as the champion of honest money and sound finance. In every convocation where sound financial principles were attacked, Mr. Knox was always found upon his feet defending that which was just and right and sound. It is remarkable how one such man, who can and will make his ability and his knowledge available, can affect a nation of sixty millions of people.

Personally, Mr. Knox was a man most genial, agreeable, and kind-hearted; a man whom everybody loved who knew him. He has left an untarnished personal and official record as a legacy to his children, and will be more universally missed than almost any other man that could have been taken away at this time. Sixty-four years of age, yet in good health, with strength and vigor, he had the prospect of many years of usefulness before him when he was stricken down. It was a very great shock to me when I heard, just as I was leaving Washington yesterday, that Mr. Knox was dead. For seventeen years he was connected with the Bureau of the Currency, and as I passed down the corridor and communicated to the older clerks the information that Mr. Knox was dead, their tear-dimmed eyes showed that they entertained that affection for him which could only come from association with one who was uniformly kind and just to all. It has been the lot of few men to serve their country more faithfully or die more beloved than Hon. John Jay Knox.

## MR. RHAWN.

I MUST ask your indulgence a few moments longer. It will not do for us to separate without your having met the gentleman who is to deliver the course of lectures, and as he will then have most of the talking to do, he will now detain you but a few moments. I have the pleasure of presenting Dr. Sidney Sherwood.

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## ADDRESS OF DR. SHERWOOD.

THE few remarks which I have to make will have reference mainly to the character of the work which I shall undertake in delivering this course of lectures.

I wish to say that I feel very deeply the honor that is laid upon me as the pioneer in this movement for the bringing about of a closer union between theory and practice in certain affairs which it is generally deemed should be taught either by theory alone or by practice alone. It is the combination of theory with practice which we want to secure, in monetary affairs especially. There have been a number of notable examples in the history of political economy and of banking of men who have been successful both as theorists and in practice. Such an example was the late Mr. Knox, who has just been spoken of. A very illustrious example in England was that of David Ricardo. At a crisis in England's monetary history which threatened the prosperity of England and the safety of her financial institutions, it was the monetary theory of Mr. Ricardo, in large measure, which saved England. It is upon the basis of that solution of the money question that England has ever since maintained the soundness of her financial institutions, and it is largely what we have learned from England that has enabled us for many years to keep clear of dangers.



In regard to these lectures, my aim shall be to give what is best expressed in the title of a little book, "The Alphabet of Finance." I will endeavor to state clearly, and in a way that will lead to intelligent discussion, the history of those financial institutions by means of which the commerce of to-day is carried on. I do not intend to go into the practical aspects of banking; that is entirely apart from my subject. What I wish to show is that in order to thoroughly understand our institutions, political and economic, to know what they mean, to learn how to manage them, we must study the way in which they have grown up; and that no institution which we have is in any way more important to the life and prosperity of a nation than the institution of money.

In going over the theory and history of money we shall have to go over briefly the whole extent of the history of civilization, for the use of money begins before civilization. I have divided the subject into the history of money and the theory of money, a course of six lectures on each. Inevitably, in speaking of the history, more or less of the theory will be involved, and the theory cannot be treated without, likewise, bringing in historical facts. So that in all these lectures we shall have to tread upon both theoretical and historical ground.

I will say to any here who intend to avail themselves of this course, that after each lecture I shall hold a class for an additional hour, in which questions will be discussed in an informal manner. The success of these lectures will largely depend upon the interest and zeal and intelligence which are shown by the members of this class in participating in the discussions.

## BEGINNING OF THE COURSE OF LECTURES.

ASSOCIATION HALL.

WEDNESDAY EVENING, FEBRUARY 17, 1892.

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MR. RHAWN.

LADIES AND GENTLEMEN,—The course of lectures upon “The History and Theory of Money” to begin here to-night was inaugurated a week ago at the New Century Club with the addresses of the distinguished speakers who then favored us with their presence. To-night the course proper will begin with the delivery of the first lecture, and it is a cause for great satisfaction to those interested in promoting the course to find here present so large and overflowing an audience of those for whose especial benefit it is intended.

It is with deep regret that we note the absence, through continued illness, of Professor Edmund J. James, President of the American Society for the Extension of University Teaching, at whose suggestion the course has been undertaken. Our thanks are due to him not only for suggesting the course, but for his care in extending an invitation to Dr. Sidney Sherwood, of the Wharton School, the able lecturer who is to instruct us.

We are also indebted to the Young Men's Christian Association for the free use of this hall for the entire course of twelve lectures, one of which is to be delivered here every Wednesday evening until the course is completed.

The course being now successfully launched, will be turned over by the Bankers' Committee to the Committee of Management of Association Local Centre, University Extension, the chairman of which, Dr. Charles Hermon Thomas, will now address you and introduce Dr. Sherwood.

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## ADDRESS OF DR. CHARLES HERMON THOMAS,

CHAIRMAN OF COMMITTEE OF MANAGEMENT OF ASSOCIATION,  
LOCAL CENTRE, UNIVERSITY EXTENSION.

LADIES AND GENTLEMEN,—You are to be congratulated on the success of the course on "Money" which this large audience assures. Mr. Rhawn and the committee of bankers whom he represents have reason to be deeply gratified at the interest you have shown. My colleagues of the Committee of Management of the Association Local Centre, University Extension, and myself, to whom has been committed the immediate charge of the course, are not less pleased.

We have here the first successful attempt to establish a course on this important subject for the information of the large and important constituency of bank clerks, which you yourselves may be said to represent. Certainly this is true as regards America, and, I believe, in regard to the world at large. Of the interest or importance of the main subject itself I need say nothing. A few words, however, may perhaps be added with propriety, addressed especially to the considerable number of those who to-night for the first time meet University Extension in its working-dress.

First, let me state what University Extension is not. It is not a series of popular lectures, no matter how interesting they in themselves might be. It is a well-considered method of study,

planned as the result of large experience in a way to furnish opportunities for the advancement in knowledge of busy men and women. Nor is the extension of education in its ordinary sense here intended. It is, in fact, the extension of university education. Education in its preliminary stages involves chiefly the memorizing of facts, the accumulation of more or less unrelated data. University education, on the contrary, deals with the higher generalizations, making use of facts only as stepping-stones to the comprehension of the principles which underlie and explain the subject studied, and it is the advanced method with which we are now concerned.

We have here at this Centre many facilities for this purpose, to which from time to time your attention will be called,—courses in economics, in English literature, in higher mathematics, in applied mathematics, and in history. The method to be adopted in the course on “Money,” as in all these, involves, besides the lectures, *allotted readings* preliminary to and illustrative of these courses; the writing of *weekly exercises* upon topics relevant to and drawn from the current lectures, which papers are submitted to the lecturer for criticism, and which will be returned to you bearing his comments; the *after-class* following each lecture, where the subject-matter of these papers will be discussed, and where opportunity for free conversation between the lecturer and the members of the class will be offered; finally, a *certificate of proficiency*, to be given at the close of the term as the result of a satisfactory showing in the weekly written exercises, together with a final examination.

I have great pleasure in introducing to you Dr. Sherwood, of the Wharton School of Finance and Economy of the University of Pennsylvania.



## LECTURE I.

### MONEY AND CIVILIZATION.

LADIES AND GENTLEMEN,—There is a class of moralists who scorn the idea of money as a factor in civilization. They speak about the immorality of the love of money; they regard it as antagonistic to civilization. Now, let it be understood that I am not to treat any of these questions from the moral side at all; the only stand-point from which I shall speak in all our discussions is the stand-point of economic and industrial life. We are in the field of Political Economy, not of Ethics.

The science of Political Economy seeks an answer to this question: How is it that men, organized in society, get their living? What are the forces in this great movement going on, year after year, by which the wants of man are satisfied? Call them material wants, if you please. You cannot thereby lessen their importance, because upon them as a basis rests all civilization. That needs no argument.

I hope to show that money plays a part of very great importance in the civilization which man has achieved. The history of money proves this. In fact, it is not necessary to go back to ancient history, because we have every form of life about us in the world to-day. People can be found upon the earth to-day just as far back in barbarism as perhaps any people that ever existed; so that we can study in actual life all forms of civilization. We shall find in this study of men that there is a very striking connection between the character of the money which a tribe or a people uses and the character of that people, as a civilized or as a barbarous people. A nation stamps the marks

and the history of its civilization into its coins. Suppose, for instance, that the present civilization of the United States were to be swept away by some disaster and buried from the knowledge of the world; and suppose that one of the United States coins—say the eagle—were to be dug up centuries hence from some heap of ruins. The historian of the future would ask whether anything could be learned from that coin as to what had been the civilization of the United States. If you will examine the coin, you will see several things upon it which would indicate the history and course of our civilization.

You find upon it, for instance, the date 1881. It is in Arabic figures. Did you ever think what that meant? It means that we have borrowed from the East, from the Arabs, the system of figures in which our calculations are carried on to-day. That brings us at once to the fact that the civilization of our day does not begin in this century, in this country, but goes away back through the centuries for its source, to a race which we consider an inferior race.

You will find, also, upon it a female head. It is a work of art (at least it is supposed to be artistic), and you would find if you were to trace back its history that it began in the art of Greece, or even farther back; how much farther it is not necessary to inquire, but at least you find the art of Greece there.

You find upon that head the word "Liberty." This is a symbol of something which, when Greek art began, or when the Arabic figures were given to Western peoples, the world had no conception of as we have now; that is, of individual liberty. They had their tribal liberty, their civic liberty, their family liberty, but that individual liberty which sets the individual up against the state, against the world, and gives him his rights,—that thing was not known then.

You find also in the language of ancient Rome the words "E pluribus unum," symbolic of that unity of many nations which was the theory of the Roman Empire.

Turn the coin over and you find upon it another writing, "The United States of America." That tells us something. It tells us that we have here the first conspicuous example in the history of the world, of a number of great independent states held together in one union. There have been empires before knit into unity by force, and there have been confederations and federations before in the history of the world in a small way (Switzerland antedated our United States), but this is the first instance of a strong and enduring voluntary union of great states in one greater nation.

You find upon this coin also the words "In God we trust." Here is indicated a civilization which recognizes the God of the Hebrews. You find upon the other side, again, in this date of which I have spoken, an indication that it is a nation of Christian civilization, for the date 1881 means, of course, the year of Christ 1881.

You can see then that written into the very coins that we use is a whole long history of the progress through which the race has gone. The elements of that progress, the steps by which it has been achieved, the very achievements themselves, are all forever legible in the coin. This coin, stamped at Philadelphia in the year A.D. 1881, reveals a civilization the elements of which must be sought in the far East of the early ages; in ancient Greece, in imperial Rome, in the German forests, in the British islands, and in the fresh American world of the nineteenth century,—a civilization which in art, in material wealth, in knowledge, in religion, in intellectual power, in every phase of human life, sums up the progress of the ages. The student of ancient history looks upon old coins as one of the most trustworthy sources of his knowledge.

But money is not merely the tombstone of past progress. There is a vital connection between the material used for money and the industrial life of a people. This is a point to be emphasized. A very little study will teach us that in the progress of

man from a barbarous to a more civilized condition we do not always find the metals used as money, but that almost every article which is of use to man has been used, or is used, at some place, by some people, as money. We need not go back farther than our own colonial days to find that in Maryland and Virginia tobacco was used as money, and this among a people who were supposed to be civilized; and we find that in New England in the colonial days there was a variety of things used as money; that, for instance, the wampum of the Indians was adopted also by the people of Massachusetts, and that at one time they used bullets as money. Abraham, nineteen hundred years before Christ, weighed out uncoined silver in payment for land, and nineteen hundred years after Christ gold-dust passed current as money among the "Forty-niners" in California. These and a hundred other facts like these are written in every book on money. There is no need to recount the oft-told facts. I shall simply state a few propositions amply evidenced by these historical recitals.

It is clear that exchange can be carried on without money. Barter, or the direct exchange of goods for goods, of goods for service, or of service for service, has always been practised. Jevons tells us of a London barter company which now carries on exchanges with the coast natives of West Africa by simple barter. Payments in kind, "trading" at country stores, "swapping" of knives and of horses, rental of farms on "shares," the whole system of book-credits, these all show how commonly barter is still resorted to. A wide survey of the facts, however, proves to us that barter, as the only method of commercial exchange, means commercial barbarism. It belongs to a rude people or to a rude age. History furnishes no example of a people far advanced in industrial development who did not have some form of money.

Another fact likewise becomes clear, that the idea of money is not necessarily connected with the precious metals, gold and



silver; but that any article whatever which is of value to the people using it may be employed in the uses of money, and such commodity is usually the product of an important industry of that people.

Now, you will also find that as people have grown to a higher and a higher civilization, they have left off the use of other things for money, and by some common consent have come to use the metals as money. They have used a number of different metals,—tin, copper, brass and iron, as well as gold and silver,—and they have gone beyond gold to a more valuable metal still in one instance,—namely, to platinum. Lord Liverpool accurately describes the evolution of money when he says, “It has been found by long experience, and by the concurrent opinion of civilized nations in all ages, that these metals, and particularly gold and silver, are the fittest materials of which money can be made.”

Writers are generally agreed upon the advantages which gold and silver possess over other metals as money material. One advantage is the marvellous durability of these two metals. Nothing can waste them except being ground to powder by actual wear. Rust and decay do not corrupt them. While grain is consumed within the year, the mass of gold and silver in the world lasts on from century to century. It is said with probable truth that we have gold in use to-day which was in use in the time of the Roman Empire.

The extreme divisibility of gold and silver is another of these advantages. Either of these metals can be divided and subdivided to an almost incalculable degree, and each particle retains the same value with any other equal particle. That is to say, when gold or silver is once refined, its quality is uniform throughout.

They are, again, metals of surpassing beauty, and the objects of universal desire. They are found in such limited quantities that this general desire for them is never satisfied. The world is

never glutted with the precious metals. They possess an undying charm. No caprice of fashion cuts away the source of their value. With great value in small bulk, they are yet perfectly homogeneous in substance, easily wrought and hard to mar. They have the greatest adaptation to the processes of coinage of all metals, and, owing to their indestructibility, they exist in such masses relative to their annual production that their value is rendered more stable than that of other things.

But there is one fact which the common acceptance of gold and silver as money material is apt to make us forget,—namely, that gold and silver are, after all, commodities differing in their economic aspects in nothing from other commodities, subject to the same laws of value. In the monetary controversies of our day it is important to remember this fact, which historical study is especially fitted to impress upon us.

By what philosophy shall we explain these facts, which seem to point out a necessary connection between money and civilization? We must analyze more deeply the nature of civilization, and discover its essential elements. Different people rarely have precisely the same thing in mind when speaking of this many-sided condition of man called civilization. We must, therefore, sharply define our conception. Our first general limitation is this: civilization belongs to society; it is a social thing. However capable, high-minded, and cultured an individual may be, the term *civilized* does not apply to him except in his relations to society. Again, civilization is a progress, a social progress. As such it is a relative thing, and is measured by comparing peoples or races with each other. Different nations achieve different degrees of civilization, but no nation ever becomes absolutely civilized. A finished civilization exists only as an ideal; as an ultimate status of perfection towards which races are striving. The idea of progress is necessary to the conception of civilization. A stationary civilization is a contradiction in terms.

Again, if civilization is social rather than individual, it is likewise psychical rather than physical. It is not merely material advancement which constitutes civilization, it is far more the subjugation of the physical by the intelligence of man; not merely the physical world of external nature, but also man's physical nature itself.

Civilization, again, is not only a progress, it is a harmony. It marshals the individuals of the race in harmonious social progress. It is harmony wrought through organization. It is the organization in society of man's intelligent dominion over his physical nature and over material forces. It involves thus the domination of the higher intelligence of man in a progress towards an ultimate ideal. Intelligence, organization, society, progress, are the elements of civilization. The progressive dominion of the intellectual over the physical, through the efforts of individuals organized in society, this would be a just definition of civilization.

But man's nature, both mental and physical, is many-sided. Civilization must be as broad as man's social life. It is, then, more particularly industrial civilization which we are dealing with in these lectures, the economic life of man in its progress through social organization to a higher and higher dominion of intelligence over matter. It is quite true that this industrial life of society lies at the base of all social progress and pervades every activity of man, be it literary, artistic, scientific, religious; but we deal with civilization only in its fundamental aspect,—industrial or economic civilization.

What, then, are the essentials of economic social progress, of this industrial civilization?

I would say that one very important factor in industrial civilization is the power which people have of putting off their consumption, not of food merely, but of all articles which they use; consumption in the economic sense of the use of commodities.

If you contrast the life of a man in a savage tribe with that of a man in our civilized world to-day, you will see that one of the strongest marks of what we call civilized man is the power which he has of living, not merely from hand to mouth, but of acquiring a surplus which he may apply to lessen or to render more effectual his future labor. It needs but a moment's reflection, I think, upon that point to realize what an immense power that gives. If a man lives simply from day to day by what he can produce each day, if he has no way by which to save up the result of one day's labor in order to apply it to the furtherance of another day's production, that man must always remain in a low economic condition. We can find upon the earth to-day millions of people who are living practically in this way; who are still in the hunting stage, as we are apt to call it, the stage of civilization where people are obliged to seek each day the food for each day, or where they provide not more than two or three days' supply ahead, at the most. A great factor in civilization, then, is this, that man has learned how to keep the surplus wealth from the product of one day's labor and apply it over to aid the productive labor of another day.

Another very important factor in civilization is what we usually call the division of labor. We do not need to go to savage life to find illustrations of the absence of this factor. From the first part of this century, when my grandfather settled in Eastern New York, in Saratoga County (then in a certain sense on the frontier of civilization, as it had a vast wood north and west of it), lasting down almost to the time of my own recollection, it was customary for the farmers to produce nearly everything which they used themselves. My grandfather, for instance, although a farmer, down to my own day made his own shoes.

Now, think for a moment upon that condition of things where every person, or every family at least, has to live by producing everything themselves that they consume. Can such a community, except under exceptional conditions, make any real prog-



ness in life? You know from your own practical experience what an immense advantage it gives for a person to be a specialist, to be able to apply all his energies, all his strength, in one direction, upon one thing, and to do that well. A matter which is almost impossible for him to do at first becomes, after practice in that way, a matter of habit or instinct,—he does it without thinking. A moment's reflection will show you how such specialization gives an immense productive power to man.

I want to emphasize that as perhaps the greatest distinction between civilized life and barbarous life, the fact that we have learned this economy of labor. Division of labor is the ordinary term which we apply to it. I like better to call it a system of specialized industry, or, better than that, the organization of specialized industry, because in an economic community one person cannot be doing one thing and another person doing another thing, unless these two persons are brought into some relation with each other. Both will starve, unless they can be brought into such mutual relation as to exchange the several products of their labor with each other.

If you carry this idea into our industrial life you will find this fundamental fact,—namely, that we live in the world to-day by a system of specialized labor. In the savage world this is almost unknown. In the rude beginnings of life each man does everything for himself. There grows out of this division of labor, necessarily, as I have already intimated, an exchange of products. One man by specialized labor creates a surplus more than he can use of his particular article, and, each one doing the same, there must arise an exchange.

Then the third fact which I want to emphasize here is commerce, exchange, the process of exchanging the products of specialized labor between the individuals who are devoted to special industries; and in that respect I think we can describe civilization as a simple widening of the market of exchange.

In a community where we have, say, nothing but farmers, as

on the frontier, you will see that exchange would amount to nothing more than an occasional friendly exchange of a few products. If one happened to have more than he wanted of some article he would exchange with his neighbor. Gradually, as the country became more thickly settled, there would come to be a store, dealing mainly in local products. But imagine a railroad put into that country, and you will see immediately that those farmers, although isolated from the world before, are brought into relation not merely with other parts of their own country, but with the whole world. They may use the products of the world by means of this new agency, which makes their market an unlimited one. And so we have come in our day to the world-market that makes our civilization an advance over all which has been before.

There is, however, one other fact of the greatest importance in the higher stages of progress,—the fact that growing out of this widening commerce has come a system of credit or future payment. It is a great factor in civilization, the credit system, by which we are enabled to make contracts for long time and to pay them at the end of that time in something of stable value. Without that confidence of man in man upon which rests the modern system of deferred payments, labor could never be greatly specialized, nor could surplus product be made generally available to increase production. Without credit, likewise, the wider markets of exchange would be impossible.

These four factors in our civilization I wish to be firmly and clearly impressed upon your minds :

First, the faculty of acquiring a surplus wealth, and so deferring consumption of goods over to a future time. This is the origin of capital.

Second, the division of labor, which so economizes the force and the energies of the workers in society that they are enabled to produce, in some instances, I suppose, a hundred-fold what they could produce if each one tried to do everything for him-

self. Without division of labor no considerable surplus wealth could be produced.

Third, growing out of the division of labor and of the existence of this surplus is the necessity for exchange. Social progress has marched step by step with the widening of the market of exchange.

Fourth, the system of deferred payments which makes possible the indefinite extension of the foregoing agencies of progress.

These factors, then,—the surplus wealth, the division of labor, the world-market, and the credit system,—show how the modern civilized peoples are distinguished from those of the earlier and ruder ages.

Having considered very briefly these subjects, which you will find more fully discussed in the books referred to in the syllabus, and having brought before your minds certain contrasts between our present commercial civilization and that of a ruder age, I wish to call your attention more specially to the functions which money performs in our civilized world, in order to make clear to you how money has aided in the beneficent process of civilizing industrial society. This can best be done by taking up, point by point, the analysis of civilization which I have made, and seeing how far money is an agency in promoting the essentials of economic progress.

The first historical uses of gold and silver were as treasure. The individual had his personal ornaments of gold or silver; the chief or king had his horses and his house decked with the precious metals, and a hoard was kept as a public fund to support warlike attack or defence. Men have universally thrown their surplus wealth into the form of gold and silver. The imperishable nature of these metals is obviously one main reason for this. They are, besides, easy to hide and to carry in flight. Being objects of general desire for ornament, they always find immediate sale at a valuation comparatively stable. Nothing has proved so fit a means of deferring one's consumption of surplus

product as gold and silver. We must remember that until recent times the individual ownership of land was rare, and dispossession was easy by force of arms. Even in our day investment in land is precarious except in a few favored localities, and now, as then, men put their surplus wealth into movable shape to elude the agencies of a greedy government. Then, more than now, the quick and advantageous sale of land was uncertain.

Again, until the recent centuries there has been a narrow field for investment in productive enterprises. Gold and silver were almost the only form in which wealth could be saved, so as to be available for the future uses of the owner. In fact, it is only in the last half-century that the most progressive peoples themselves have left off the practice of hoarding the precious metals, and have learned to save by using. "Investment" of savings is a new thing. Hoarding has been the general practice for individuals and for nations. It is this use of the money-metals which has led writers to speak of money as a "store of value;" and in this use money has fostered the instinct of saving, has taught men how to exalt future progress above present wasteful consumption. In a language now deemed unscientific, we might say that the "providential" reason for the existence of this strange human passion for the precious metals was to enable man by temperance in physical life to win the intellectual mastery of himself and of nature. To "save money" is the popular expression for that quality in man which makes each succeeding generation richer than the last in all the high things of life. Money, as the "store of value," has been the chief means of enabling man to gain and utilize his surplus wealth, that which we now call capital.

Division of labor is simply labor organized for the purpose of producing this surplus wealth. It is the mechanism of the saving instinct. Those qualities which make money the universal "store of value" likewise render it the agency by which



specialization of labor is accomplished. There must be some common means of comparison between the various products of special labor, so that each producer may receive his just share; something universally used and universally understood which shall measure one commodity against another, so that the value of all commodities may be told in a common language. In barter each commodity measures the value of the other. Sale and purchase by means of money is but a double barter, in both of which transactions the money is used, becoming thus the measure of value for both the other commodities. Not only must there be the actual thing in which value can be stored for the purpose of future consumption, but there must be some measure, generally intelligible, to determine at what rate the surplus products of specialized labor shall be exchanged. Every one comes to know how much value there is in the money unit, for every one uses it. Every one thus is enabled to tell how much money the product of his labor is worth, and how much of other things he should receive for it, whether now or in the future. Money in this use has been called the "measure of value."

Let us take up now the third essential of industrial progress, the market of exchange. Imagine all the products of industry brought together into one huge market, and their exchange attempted without the use of money. You see at once the utter impossibility of doing such a thing, even in one great city like this. Let all the money be suddenly withdrawn from Philadelphia, and the whole process of commerce would be entirely blocked. The most evident and the fundamental function which money performs is as a "medium of exchange."

There must be not merely some common measure of value in commodities, but some commodity which is acceptable to all owners of commodities in order to render exchange on a large scale possible,—some commodity which every man in his character of producer will accept in exchange for his product,

because he knows that in his character as consumer he can obtain for it in exchange what product of others he will.

A market is a process rather than a place; it is the *meeting of demand and supply*. We have seen how a widening market is a mark of industrial civilization. The production of raw material and even manufactures, or the production of form-value in goods, may both be carried on to some extent in a narrow and local market by barter or by some rude form of money. But this would be done with little specialization of labor, with small accumulation of capital, and with consumption following almost immediately upon production. Commerce or exchange, which produces place-value and time-value, by getting goods into the hands of the consumer at the time he calls for them, is thus the real agency of the market. In the world-market, which is the mark of this latter-day civilization, money is the means by which world-wide demand is enabled to obtain world-wide supply. Money is, in the words of the German jurist, Savigny, "eine allgemeine Vermögens-Macht," "a universal purchasing power;" it commands all commodities in the world-market and for consumption indefinitely deferred. Without such a universal transfer-medium the world-market would be impossible. As steam-transportation has made possible a world-market by bringing product to meet consumers' demand, so has money been necessary to the world-market by carrying demand over to make it effective in the production of supply. It is the universal acceptability of gold and silver which makes them the world-money.

This brings us to the fourth characteristic of civilization,—the organization of exchange, or the system of deferred payments, which we usually call credit. As division of labor is the complex or organized mechanism of the human motive of gaining a surplus product, so is credit the complex or organized mechanism of the human motive of exchange.

Any system of credit or deferred payments must rest upon

the certainty that a person who waits for payment until some future day shall then receive the same value which he would have received if the transaction had been consummated at once. Contracts for the supply of specific goods, book-credits between mercantile houses with periodical settlements, banking transactions, whether discounting of commercial paper or the issue of bank-notes,—these all, as well as government paper money and foreign bills of exchange, are instances of credit. They all alike show how the very life of credit is a stable monetary standard. Stability of value is the great requisite of a money which is to be the basis and the standard of deferred payments; and this is a marked characteristic of gold and silver, as we have seen. The “standard of value,” or the “standard of deferred payments,” is then the fourth function of money.

To summarize in a word,—Capital, or deferred consumption, and exchange, or a world-market, are the characteristics of our economic life. The first is organized for progress through the specialization of industries; the second, through the system of credits or deferred payment. In all this complicated process of supplying the wants of man, money is the great agency, the universal transfer-medium. In transactions affecting chiefly the present, money aids by being the actual medium of exchange, and at the same time measuring the value-rates of the exchange. In transactions to which time is essential, money aids by storing value for future consumption and by measuring the value-rate of the deferred payment. It is not essential that the same kind of money should combine all these functions, but such is the case with gold and silver. In the first class of transactions, general acceptability is the main requisite of the transfer medium, and this gold and silver pre-eminently have. In the second class of transactions, it is permanent acceptability or stability of value which is needed, and in this quality gold and silver have never been surpassed. Through our money we have pushed back around the world the limits of our market and have enhanced

the value of the future; to quote a common and somewhat flip-pant phrase, we have "annihilated space and time." Through money we have organized the physical forces of the earth and the intellectual forces of man into a complex mechanism to supply the demands of our social progress.

*Question to the class to answer during the ensuing week:*

What are the economic functions of money?

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#### DISCUSSION FOLLOWING LECTURE I.

A GENTLEMAN.—How do you define the term *money*?

MR. SHERWOOD.—That is a hard question to answer. It seems to me the most satisfactory working definition I ever found is one given in the first chapter of Walker's book; but it is too long to quote here.

SECOND GENTLEMAN.—What is the origin of the word *money*?

MR. S.—I do not claim skill in philology, but I think it comes from the Latin *munus*, "a reward," which is also found in our word *remuneration*.\*

FIRST GENTLEMAN.—What, in your opinion, would be a good definition for money?

MR. S.—No two people define money in the same way. There is no subject which can be defined by strict limits. I would say that as an ordinary definition of money,—a definition that will serve our purposes,—money is that which performs these functions pointed out in the lecture: first, it is a medium of exchange; second, it is a measure of value; third, it is a store of value, or that which treasures value up for use at a future time; and, fourth, it is a standard of deferred payment. I do not mean

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\* This was a wrong guess. In Italian and Latin the word has the form *moneta*, and is said to be derived from the name of the temple in Rome, Juno Moneta, which became the Roman mint.



that this shows every side of money, but I do not care so much for an exact definition as I do to get at the general idea of what money does. This definition has been attacked many times, and I know that it can be successfully attacked in some respects, but it serves the purpose.

THIRD GENTLEMAN.—Don't you think this is a pretty good definition for money?—Money is that particular medium of exchange which, through its general acceptability, overcomes the difficulties which we meet in mere barter. The difficulty is a double one: in the first place, it is difficult, in mere barter, to adjust the values of different things; and, secondly, it is difficult to find parties who will exchange equivalent things. The man who has what I want may not wish to exchange with me for the article which I have; but through a circuit the exchange may be accomplished: that which I have may be wanted by a second person, the second person may have what a third person wants, and the third person may have what I want. Money performs that circuitous exchange.

MR. S.—That is, logically, a very satisfactory definition. I like also Savigny's definition of money as a universal purchasing power, giving the owner of it a universal power over commodities.

FOURTH GENTLEMAN.—Does not the division of labor dwarf men? A generation ago a man could make a watch complete. Now a man can only make one wheel of a watch.

MR. S.—There are forms of industry in which the division of labor, forcing a man to spend his whole time in doing one narrow thing day after day, does dwarf him. At the same time, it seems to me that if you get any general view of this subject of the specialization of industry, you will see how our life could not possibly be carried on without it, and I should say that these disadvantages arising from the specialization of industry are so much smaller in proportion to the immense advantages that we derive therefrom, that we have to accept them as one of the

great mysterious wastes of human force that go on in society anyhow.

A LADY.—Don't you think society would be greatly benefited by having production carried on by all the people collectively and giving every one an equal opportunity to enjoy the proceeds of labor, each, of course, doing some serviceable work: for society as a whole to enjoy the profits of production instead of having individual production and individual profit? Now a few people exploit the many.

MR. S.—That opens up a subject which is one of the most vital questions before the world,—the question of socialistic industry against individualistic. It is a question which nobody, it seems to me, can undertake to settle off-hand. There is no doubt that in many ways the socialistic ideal is a higher and a better ideal than the individualistic. If you take Christianity itself, it is in one sense a socialistic religion, but in another sense it is a very highly individualistic religion. It seems to me that these two questions are nothing but two sides of one question, after all, and they are only a part of the practical question of how the best shall be accomplished. Whatever may be in store for us in the future, whether we are drifting towards a socialistic state nobody can say, and so long as we cannot tell whither we are tending, the best thing we can do is to work upon the present basis and see what we can do in the best way now with things as they are, and then the great drift of human life and human progress will carry us on whether we want to go or not. The only thing is to make the best of the individualistic system we have. The most reasonable method of reform is not a general reorganization of society, but the treatment of each particular institution separately when there is need for reform. In that way the surer progress can be accomplished.

FIFTH GENTLEMAN.—Are not the monetary system and the post-office system of the United States two of the best illustrations of the socialistic system?

MR. S.—Well, socialism as a *system* involves the whole field of industry, and it is a serious question whether the state conduct of one or two industries can be called at all socialistic. Socialism as it is now preached means the state doing everything,—production and consumption, the identity of the industrial with the political organization. But we have said enough about socialism. Our question is to consider the office which money has performed historically and which it performs to-day in our present institutions. We must keep clear of these questions which take us away from our particular subject. Then, if we exhaust this subject of money before we reach the end of the course, it will be time enough for us to take up these collateral subjects. We must not drift too far from the consideration of money, its history and its theory.

## LECTURE II.

### COINS AND COINAGE.

LADIES AND GENTLEMEN,—Our subject for this evening is “Coins and Coinage.” We shall pass over the points raised in the syllabus as to the advantages and disadvantages of coinage and take up immediately certain historical facts. In discussing a subject of this kind it is well to look somewhat broadly at the historical connection between events, and to see what place any institution under consideration may have in the great historical progress of mankind. It is with this end in view that I would call your attention at the beginning of this lecture to a point midway in history between the ancient world and the modern world. It is a picture of European life in the eighth century after Christ. We have briefly these facts:

The Roman Empire, as such, is gone. A confused mass of Teutonic or Germanic nationalities, who have pressed in upon the Roman Empire, occupy the field of Europe. In England, in Scandinavia, in what is now France, in Spain, over a large part of Italy,—everywhere is dominant this Germanic element, from which we spring. It has taken the place, largely, of the old Romanic element of the Roman Empire.

We see this new, progressive, and spirited race confronted, in the first place, with the Christianity that has gained foothold in Rome, for the Roman Church has already achieved a religious conquest of the strongest of these Teutonic peoples,—the Franks. On the other hand, in the seventh century a mighty power had grown up in the East,—the power of Mohammed and his religion. It is a marvellous history; but we cannot recount it now, and need only note how in the course of a few years the conquests of the Mohammedan armies spread from Arabia east-



ward and northward and then westward, along the north coast of Africa, until early in the eighth century the sword and the Koran of the Moor crossed over into Spain.

This, then, is the picture: on the one hand, this Oriental civilization confronting the civilization of Rome; on the other hand, aggressive Islam threatening the faith of Rome,—face to face the two greatest civilizations of the world and the two greatest religions of the world. It is a question which of these two civilizations and which of these two faiths shall possess Europe. The Moors from Spain cross the Pyrenees and enter France. As yet there is no organic union between the Teutons and the Church, but the Teutons under the leadership of the Christian Franks, led by Charles Martel, meet the Saracens in the year 732, near what is now Tours, in France, and one of the most tremendous struggles in history takes place there. The Moors are routed and the Teutons are left masters of Western Europe. It is the turning-point for the Western civilization and for the Roman Church. The grandson of Charles Martel—the Great Charles, a mightier man than his grandfather—pushes his conquests in every direction, the Franks holding always the leadership until, in the year 800, is wrought the final connection between this Teutonic power in the North and the Roman Church, for Charles is crowned Emperor of the Romans at Rome by the Pope himself.

I have called attention to this to show how we see here the connecting link between the ancient civilization and our modern civilization. The culture of Greece and of Rome, the new Christian religion, coming together and uniting with this new national blood from the North, the Germanic race, have grown into a triune force, making for progress. Henceforth though there were many centuries of seeming inaction, which we are apt to call the "Dark Ages," yet from that time there went forward a substantial progress, a growing towards the better conditions of our modern life.

The Roman Empire gone, the idea of empire then passed over from Rome to a new political creation which lasted down to our own century,—the Holy Roman Empire of the German nation; the union of the Christian Church with the Germanic people. Sometimes it was a mere name, it is true, yet it was an idea which held and mastered the minds of men until it was overwhelmed by the Empire of Napoleon. The last act in this grand march of empire we have seen in our own day,—Germanic unity accomplished; not the whole Germanic unity that Charlemagne had wished for and fought for, but still a magnificent Germanic Empire.

Charlemagne was not merely a great warrior, but he was a great administrator, a great ruler. His dream of empire was one which ruled him, and with this dream in his mind he organized his immense kingdom, which included nearly all of Western Europe, trying to introduce into the whole vast system a unity of administration, a unity of military organization, of political organization, of judicial organization, and, what is especially important for us to know, a scheme of uniform coinage.

His system of coinage was the direct successor of an old Roman system of coinage which then prevailed. It was a pound of silver divided into two hundred and forty pence. Charlemagne rather debased the Roman standard,—that is, he made the pound of silver about one-tenth less than the old Roman pound of silver had been,—but he kept the system of two hundred and forty pence in the pound, and this system was introduced with more or less success into what is now France and what is now Germany. We shall return to this later in the course of this lecture, but I wanted to bring out here the vital connection which exists between the forces of civilization in the old world and in our world; in particular, between the old system of coinage and the system of coinage which prevails to-day.

It is not my purpose to go into the technical matters of coinage. That can be learned a great deal better by a visit to the

mint, and it is a matter of which I have not made any special or detailed study. I will simply indicate in a few remarks the technical progress which has been made in coinage.

The first coins in the Western world of which we know anything were coins struck only on one side, the so-called *incused* coins. The metal was laid upon a die, a punch was placed upon the upper side of the metal, and the punch was struck with a hammer. The die left the impress upon the lower side; upon the upper side was simply the punch-mark. The edges were not confined at all, so that the outline of these coins was an irregular one. You see how very readily such a coin as that would leave room for the fraudulent removal of the metal on the side where the punch-mark was.

A little later another feature was introduced. This upper punch gradually grew into the form of a die with a regular inscription upon it like the lower side, so that finally, and that in the very early history of coinage, coins appear with an inscription upon both sides. It is easy to imagine, however, how very irregular the coin would be when the edge was not confined and the punch was held by hand: no two coins, in fact, would be precisely alike.

By and by came another advance,—an instrument something like a pair of tongs, at each end of which a die was fixed, so that by bringing the tongs together the two dies could always be kept in the same relative position, and thus the coins would be struck with more uniformity as to their size and as to the place where the inscription was stamped upon them.

Now, it is a very strange thing, with all the progress of invention in other things, that not until the middle of the seventeenth century do we find very much improvement upon this method of coinage. In England coins were still struck by the hammer down to the latter part of the seventeenth century, when the screw was finally substituted for the hammer, and the process of milling was introduced. You notice that the coins which we

have now have a milled edge,—that is, a raised edge in which grooves are cut. This was effected by placing a collar, grooved on the inside, between the dies or upon the lower die, so that when the upper die was struck upon the metal the metal was confined within the collar and came out with this raised and grooved edge. The reason of that is obvious: the edge was raised to prevent the too rapid wearing of the face of the coin, and it was grooved to prevent the clipping away of the metal, which had been a very prevalent practice under the old system of striking with a hammer, when the edge was not confined. It was not until this century that the steam-press was introduced, together with the other modern improvements in the method of coining.

So you may see how far behind other things the process of coinage has lagged; and when you consider that coinage is something which has been of the utmost importance throughout all these centuries, it is really a strange thing that new devices have not been introduced sooner.

If one wishes to go further into this subject it is easily done by taking up books that treat of numismatics, but we must drop this matter here, because, as I said at the outset, our course is one which is to study not the moral or the mechanical side of money, but only the economic side of money,—that is, the work which money does, and the kind of money which will best do that work.

It is well, however, to note at this point that the mechanical execution of the coinage has very important economic results. Coins should be so struck that counterfeiting shall be impracticable, and that the fraudulent removal of metal from the coin shall be made as difficult as possible. The amount of alloy in the coin, likewise, affecting as it does the rate of wear, or the life of the coin, as it is called, is important. Some governments pay much attention to the artistic appearance of the coin, and even attempt to foster a patriotic sentiment by striking coins to



commemorate great national events. It must not be forgotten that money to be serviceable must be acceptable to the people. Whatever the art of the coiner can do to keep coins durable, convenient, safe from fraudulent tampering, and popular with the people, tends so far to give economic goodness to the coin. The question naturally arises, What is the nature of coinage? How does coin differ from uncoined money? Adam Smith says that the government stamp upon a coin is substantially the same thing with the government stamp placed upon inspected merchandise of any sort. In other words, gold and silver coin are simply commodities officially certified. Gold coin, for instance, in his view, is a commodity which passes from hand to hand, from person to person, just as flour or meat or any other commodity in the market does. Some governments have a practice of inspecting flour or other merchandise in the market, and of placing a government stamp upon it to show that it is of a certain quality. Historically, and in theory, that is what government coinage is. Adam Smith was right. Coinage is simply the stamp of the government guaranteeing the weight and the fineness of certain metals which pass from hand to hand in the market as the property of private persons. Theoretically, coin is a commodity which belongs to private persons and to which government affixes its stamp for the protection of the community. While this is the theory of the subject, it is practically true that coinage takes the form of a sale of bullion to the government as if coinage were an operation carried on on government account; and it is also true that governments do sometimes purchase and coin bullion on government account. But the fact remains, that coinage is primarily a certificate by the government of the quality of private goods. What effect this government stamp has upon the value of the metal is a question to be considered in another place.

Let us now take up several matters connected with the use of coins. I think a concrete illustration would be the best way to

approach the subject. Here are two twenty-five-cent pieces: one which is considerably worn, while the other is in tolerably good condition. These coins will illustrate to us several things about the circulation of money in a community. The first question is, How does the worn coin come to be worn?

In the first place, it may be worn by actual, legitimate use. It goes its way through the community; it is in one person's hand and another person's pocket; it travels a lively course in trade, and in a few years it is found that the lettering upon it begins to grow indistinct and the metal is worn away.

Now, suppose that a person had two such coins, one a fresh coin from the mint and one a coin which was considerably worn. He knows by actual experience that this worn coin will be taken by his neighbor, and that he can pass it along just as well as the other one. This naturally suggests to him that if he had some way of wearing away artificially part of the metal from this good, full-weight coin, he could make a profit out of the difference. That suggestive idea has taken several practical and successful shapes. "Clipping" the coin is one of them. Clipping is a hard matter now, but before milling was introduced it was comparatively easy. When the edges were irregular the metal could be clipped off from the outside.

But clipping is not the only method. One method, frequently employed, is called "sweating." It was argued that if these coins in the course of their ordinary use could be worn away to perhaps two-thirds or even less of their former size, they might be artificially worn by placing a lot of them in a bag and shaking it. That process was called sweating. The bits of the metal worn away by this process would be collected in the bottom of the bag and could be easily separated, giving a large profit on the transaction.

But that is not the only way, either. If a coin is thick a piece can be punched out of it, the hole plugged up with some other metal and the surface hammered over so that it will not be

noticed. Mr. Jevons tells in his book of a double-eagle of the United States actually sawn in two, the gold dug out of the inside and the two parts welded together, with a piece of platinum put into the cavity, so as to bring the coin up to its full weight. In such a case it would be almost impossible to detect fraud.

Having glanced at these different processes of wearing away the coin, whether fraudulent or done in the ordinary course of business, the question naturally arises as to how long a coin will stand the wear and tear of actual use. The calculations which have been made about that show that it is different for different countries, for reasons which we shall see. It has been estimated, however, that a coin ought to last on an average about twenty years,—not that it would be worn away entirely in twenty years, but that it would be so worn as to need recoinage; for the law allows the wearing away of a certain small fraction of the standard weight before the coin can be refused in the payment of debts,—that is, before it ceases to be a legal tender.

In this connection the question of the form of the coin is important, whether it shall be round, or hexagonal, or of other form. Coins appear in all shapes in different countries and different ages. The question of form is one of convenience, and also one which affects the wearing qualities of the coin. It is evident that a coin with hexagonal corners would wear away more quickly than a circular coin, and so nations have come to adopt the circular form as the best for coins.

Another question of great importance is the alloy in the coin. The metals gold and silver in their pure state are soft and very easily worn away, and they must be hardened, or the loss from wear will be enormous. In different countries a different proportion of alloy has been adopted, and it is still a question among experts as to which is the best proportion of alloy. I do not wish to go into that; it is not a matter which specially interests us here.

But this whole subject suggests one very important fact. Suppose there are in the same country two sets of coin circulating. Here is a coin that is worn away, and here is a coin which is a good, full-weight coin. Suppose that the full-weight coin retains its full weight, what will be the principle of circulation of these two coins? Why, manifestly, if a man has a full-weight coin and a lighter coin in his pocket, and has a debt to pay, he will use the lighter coin, if it will be accepted, and will keep the heavier coin for some other use. Accordingly, away back in the sixteenth century, we find that Sir Thomas Gresham stated this principle in a form which has been known ever since as Gresham's law,—namely, that if there is a depreciated coin circulating by the side of a full-weight coin in a country, the depreciated or bad money will drive the good money out of circulation. As thus stated, the law is too absolute to be strictly correct, but as a general law it is undoubtedly true that the bad money *tends* to drive out the good money from the circulation.

That brings up the problem immediately, What is to be done in a country which has become full of this light-weight coin, and in which Gresham's law has operated to drive out the full-weight coin? This suggests a set of questions which have been, throughout all the history of money, of the greatest importance,—the many-sided problem of the recoinage of the old worn coins. Suppose these coins have been worn away on the average a quarter of their original weight. Great confusion has been thereby introduced into trade; people will not accept the coin any more and are resorting to the old method of barter or direct exchange. The question arises, Shall the old standard be restored? Shall these light-weight coins be made full weight again, or shall the average weight of the worn coins be accepted as the standard weight of the new coins, since prices and debts are adjusted to the level of the depreciated currency? Sometimes governments have decided in one way, sometimes in another.



Another question arises: These coins having circulated throughout the community in everybody's hands, who shall bear the expense of recoinage? We have seen that coin is really a commodity in the hands of the people, passed from hand to hand. It has the government stamp of genuineness upon it, that is all; it does not belong to the government. Now, shall the government call in all these light-weight coins, giving back full-weight coins for them, so that nobody shall lose by the operation, and paying the expenses of recoinage out of its general revenues, or shall the government buy these light coins in at their bullion value only,—that is, the amount of metal which they contain, thus throwing the loss upon the holder of the coin? That is a question likewise which has been decided sometimes one way and sometimes another. The English way is to let the holder of the coin lose the difference. The government does not take these old coins and recoin them, and you will find it stated in Mr. Jevons's book that the English coinage has been getting into a worse and worse condition all the while from that fact. Any one having these worn coins and not having the right to take them to the mint and get them recoinced without loss, simply keeps them in circulation indefinitely. England has lately made some change in her laws on that point, but I am not sure what the change is, and, at any rate, that has been the policy until recently in England.

We now come to another question connected with this same matter,—the question of seigniorage. From the beginning coinage has been a government prerogative. Not that there have not been private issues of coin, but they have generally been suppressed, and the tendency has been, throughout the history of England and other countries, for coinage to become the monopoly of the government. You know in our own history the colonies each had the right of issuing their own money, but when the States were formed into the Union it was left to the United States alone to coin the money. The highest govern-

mental power in a country is the power that exercises the right of coinage, as a rule.

When gold or silver is brought by private persons to the mint to be coined, shall the full weight of coin be returned to the owner of the bullion, or shall the government keep out a part of that bullion, either just enough to pay the expense of coining, or even enough to make a profit? Some governments exact seigniorage, as it is called,—that is, they keep out a certain amount of the metal which is brought for coinage. The English government does not charge any seigniorage at present for coining its standard money, nor does the United States government charge any seigniorage proper for coining its standard money.

Right here emerges a fact of the greatest importance. If the government can take out of the bullion which is brought there for coinage enough metal to pay the expense of coining, what is to hinder it from taking out more and so making a large profit? It has been found that worn coins will circulate, as a matter of fact, and why not coins made lighter in the beginning? This has been the philosophy of many kings, and many times in the history of governments the principle has been followed of taking out more of the metal in coining than is necessary to pay the cost of coinage.

That brings us to the subject of the debasement of coinage. The debasement of coinage has been an almost universal fact. Every country has come down from a higher standard to a lower from time to time. This has often taken place on the occasion of a general recoinage of light coins, as has been already intimated. It has been plausibly argued, "As the coin in circulation has been worn away, so that perhaps one-third of its value has gone, we may make the new coin but two-thirds the original value of the old coin, thus keeping things on the level to which they are now adjusted." Governments likewise have often taken advantage of that condition of things to make a profit out of the coinage.

Thus we come to another matter which I will touch upon before closing the subject of standard coins and token coins. It has been found that light-weight coins will circulate, and that there has been great difficulty in circulating side by side coins of two different metals, as silver and gold,—the undervalued metal tending to leave the circulation according to Gresham's law. Owing to this fact, the policy which has been very generally adopted has been to make one metal the standard, and to have the coins of other metals, which are used as money, made of less weight than their full value in relation to this standard metal would require. I will tell you in a moment the way in which England has done that. This coin, which does not have in it bullion of a market value equal to the nominal value of the coin, we call a "token." On the other hand, a coin which has in it bullion of a market value equal to its nominal value—that is, the market and the mint value being the same—we call a standard coin. Another definition of a standard coin might be made, but that is the distinction which I want to draw here.

Let me now sketch very briefly some of the landmarks in the history of English coinage. In a later lecture we shall treat the subject of American coinage. The American and the English coinages are those which concern us most nearly. It is necessary that we have the chief facts before us, and I shall not overburden you with details.

We have spoken of the pound of Charlemagne, divided into two hundred and forty pence. Twelve pence made a solidus, as it was called, and twenty of these solidi made the unit of value, the pound. This system, which he tried to introduce, persisted as a matter of fact in many countries, and spread farther than his jurisdiction. The most reasonable origin which has been suggested for the English pound is the pound of Charlemagne. Charlemagne's coinage was the origin of the French system; but by successive debasements the ancient unit was reduced, so that by the time of the French Revolution, in 1789,

the pound was only one-eightieth of its former value, perhaps the greatest series of debasements in any coinage. Then this debased pound became the franc by a slight change, so that you have here a direct connection between the French money of to-day, through the old pound of Charlemagne, back to the Roman system of coinage. That is a fact which I would like to impress upon your minds: that we do not invent out and out our systems of coinage, but that, like our laws and our forms of government, they grow up by successive changes of some old system.

We shall start in England with William the Norman in the eleventh century. He did not introduce this pound into England; it had been introduced before, during Saxon times. It was called the Tower pound, or the Saxon pound, and was a little different from the Troy pound. These variations probably came from the fact that the different tribes or kingdoms adopting Charlemagne's revised Roman coinage could not get exactly the same weights. Later this Saxon pound was replaced by the Troy pound, which has remained the basis of the system in England ever since. The variation is so slight, however, that it will not make any difference for our purpose.

In the time of William I., then, the latter part of the eleventh century, the pound in England was actually a pound-weight of silver. It stayed so for a long time. In 1300, Edward I. reduced this by coining, instead of twenty shillings in the pound, twenty shillings and three pence, and then one king after another followed his example until the time of Elizabeth, when sixty-two shillings were coined from the pound. That was the last debasement made until 1816, when gold was made the standard and the silver pound was coined into sixty-six shillings. You will understand that nominally twenty shillings always made the pound, so that the weight of silver in the shilling came to be less than one-third what it was originally.

I wish that you would all read the account of the recoinage of 1696 in the twenty-first chapter of Macaulay's "History



of England." It was a question then of debasing the silver coinage still further, from sixty-two shillings in the pound to seventy-seven shillings. The system of English money at that time was in such a condition that it seemed almost necessary to adopt the debased standard; but there was a vigorous protest made by Sir Isaac Newton, then Master of the Mint, and by John Locke and others. They succeeded in keeping the government to the old standard. It is a brief account, very interesting, and it will let you into the state of society at that time in a very graphic and vivid way.

The guinea, which was the chief gold coin of England before 1816, was first coined in 1664. The Mint of England was opened to the free coinage of gold in 1666, and the guinea was debased several times after that to keep its value adjusted to the changing silver-price of gold. The present system of England was inaugurated in 1816, when gold was made the standard and silver was degraded into a token coinage. The pound-weight of silver before the law of 1816 was coined into sixty-two shillings, twenty of which constituted the pound sterling. The new gold sovereign, thenceforth to be the standard, was made equal in value to the pound sterling,—that is, to twenty of these silver shillings. But thereafter silver shillings were coined sixty-six to the pound-weight of silver, so that each shilling was not worth intrinsically one-twentieth of the gold sovereign, but became by law a token coin.

The principle of token coinage is that a government, instead of letting private people bring bullion to the mint in unlimited quantities to be coined, by buying it up on public account and coining only a limited amount of it, can cause it to circulate, though of less value than standard money. Being at least a partial legal tender, it has a forced circulation; being limited in amount to the actual demands of trade, it will not drive the standard coin from circulation; and being of less metallic than nominal value, it does not pay to melt it down, or hoard it, or send it abroad.

Do not forget this fact: that originally the pound sterling in England was actually a pound-weight of silver, there being two hundred and forty pence in the pound and two hundred and forty pennyweights in the pound-weight; that by successive debasements of the currency it has come to be what it is now,—instead of twenty shillings by weight in the pound, there have come to be sixty-six shillings by weight in the pound. The important dates to remember in the history of English coinage would be, first, 1066,—the condition of things in the time of William I.; then after a series of debasements a great recoinage in the time of Elizabeth, in 1560; next, in 1666, the mint opened to the free coinage of gold at a legal ratio to silver; next, in 1696, we have the famous recoinage which settled the policy for England of sticking by the “ancient, right standard;” and then, finally, we have the great recoinage of 1816, by which England changed over to the gold monometallic standard, which she retains to-day. Later laws have confirmed the policy of the law of 1816.

*Questions to the class to answer during the ensuing week:*

1. Why is the bullion value of the English shilling and the United States half-dollar made less than the nominal value?
2. Explain what is meant by seigniorage and show its relation to gratuitous coinage and free coinage.
3. Trace briefly the history of the English pound sterling.

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#### DISCUSSION FOLLOWING LECTURE II.

MR. SHERWOOD.—It has been suggested that I was too technical in the way in which I put the question for discussion last week,—“The Economic Functions of Money.” What I meant by the economic functions of money was this: What is the work which money does? By economic I do not mean economical. There is quite a distinction between the two words. I used the word in the technical sense of Economics,—which, to

my mind, is a better term than Political Economy,—and I meant, by my question, What is the work which money does in commerce, in exchanges between man and man?

There is one matter I would like to touch upon before we go on with the discussion for this evening. In one paper the question is asked how it was that I made money a store of value. It runs like this: “When an individual acquires a surplus of money beyond his actual requirements he endeavors to make an investment—for instance, in real estate, bonds, or other securities—which will bring some return. As the money is not actually stored up or hoarded, can it be truthfully considered a store of value?”

The criticism, from one point of view, is a just one. There is a state of industrial society—such, for instance, as we have largely developed in this country and as England has developed—in which people do not keep money by them, but invest it; but it is only a little part of the world where that thing is done. If you go to France you will find that people do not invest money, as they do in England and America, to anything like the same extent. Throughout the country generally the people do not put their money in the banks at all, but keep it in their houses. Money is actually there a store of value. Our impulse is to put the money in the bank as soon as we get it. But the banks keep it as a store of value; their reserve is kept until the time that it is needed; that is one of the uses to which money is frequently and largely put.

A GENTLEMAN.—If money is a store of value, is it not the silver or the gold as such, rather than the money as such, that is the store of value? Is it not the commodity silver, or the commodity gold, which is the store of value?

MR. S.—It is a disputed point how far a distinction can be made between the commodity-nature and the money-nature of metallic money. It is a disputed point, for instance, whether the amount of gold or silver in commodities can act upon prices,—whether the value of the gold dollar, for instance, is fixed only

by the amount of gold that is in use as dollars, or whether also the amount of gold in use in the arts has an effect upon that value. What would you say upon that point?

FIRST GENTLEMAN.—That is not exactly the question that I intended. If money is a store of value, or if money can be used to store value, is it not merely the silver or gold which is contained in the money that can be stored as a valuable thing? If other money is stored,—for instance, credit money,—then that credit money can certainly not be a store of value, because that credit money is merely the right to demand some value from somebody else who holds it without owning it. It seems to me that, if money can be a store of value, it can only be such as silver or gold and not in its function as money.

MR. S.—Well, I should not agree with you upon that point for this reason: that if credit money has value, so long as it has value it can be used as a store of value. Now, has credit money value? It has value so long as the credit is good which supports it.

SECOND GENTLEMAN.—According to that, a mortgage would be also a store of value.

MR. S.—A mortgage—a claim of right to property of another—could be used as a store of value, undoubtedly.

SECOND GENTLEMAN.—Is not that other property really the value that is stored, and not the mortgage? Is not the house really the value, and not the paper on which the mortgage is written?

MR. S.—Undoubtedly; and applying the same thing to money, you might say that money has no value except for the commodity for which it is to be exchanged. What is stored is purchasing power.

A LADY.—In speaking of the uses of money, do you include that use to which it is put in cornering the necessities of life, by which system necessities are raised artificially in value and thus the consumer unduly taxed?



MR. S.—Unquestionably money is sometimes so used.

THIRD GENTLEMAN.—Going back to the question of last Wednesday's lecture, there is no doubt in my mind as to what you meant by the economic function of money, but I have doubts as to what you meant by money. It seems to me it is important to know what is meant by the term money. In the first place, in answering the question, What is money? after you had described its functions you said that the best definition of money is that given by Professor Walker, and that that was too long to give, and then you said that the best definition was one given by a German, who said it is a universal purchasing power. It seems to me that money is no more a purchasing power than wheat. Your third definition was that money is that which has these four functions: a medium of exchange, a measure of value, a store of value, and a standard of value. As to the fourth, the standard of value, I do not see what is in that part that is not in the second, the measure of value. Further than that, as to the storehouse of value, I do not see how an article can be a storehouse of value unless it has value. As to the second part, I do not see how an article can be a medium of exchange without also being a measure of value. All that was given in that definition is summed up in the first part: money is a medium of exchange, and so far as that is concerned, a freight-car is also a medium of exchange. Are we not, then, brought down to the definition which another gentleman in the audience gave the other night, that money is that invention which aids exchange by avoiding barter? And if that is the only definition, why do you say that the use of banks and clearing-houses has done away immensely with the use of money? Will you explain what we are to understand by the term *money*?

MR. S.—Well, that is quite a broadside. I would say, in the first place, that, as I said last week, I do not believe in giving too much definition. The reason is that no one on earth can accu-

rately define anything so that just what it contains is included in the definition, and so that just what should be excluded is excluded. I do not think I have ever seen a definition of anything that was accurate if you wanted to pick it to pieces. The only thing is to know the essential points of the subject which we talk about. That is about as far as we can get, it seems to me. Going over these questions which you have brought up, I would say, in the first place, that that definition of Walker's, which was too long and which no one can remember, is properly more a description than a definition, and in that you are right to criticise me. It is a description of money in one of its phases,—a popular conception of what money does,—and I think quite correct in that respect. As to what I said about money being a universal purchasing power, I can defend that definition. In your criticism of it you left out the word *universal*. As you said, undoubtedly wheat is a purchasing power, but wheat is not a *universal* purchasing power. But now you can criticise me there. You can say that neither is gold or silver a universal purchasing power. By universal I mean this: that in any given market, at any given time or place where goods are exchanged, that thing will be a universal purchasing power which will be exchanged against every other commodity in the market. A market is a fluctuating thing in that sense; it may extend over a long time or a short time; it may extend over a whole country or may be confined approximately to a county or a city; but in that market anything that may be used as a universal medium of exchange I would call money in that market; and that is what I mean by money as a universal purchasing power. In taking up that fourfold definition I would make a division between these four functions: I have given money as a medium of exchange, money as a measure of value, money as a store of value, and money as a standard for deferred payments or a standard of value. In every barter of one thing directly for another, the thing passes in the present, immediately,—the ex-

change is made and consummated at once,—there is no time element properly in barter. When you speak of money as a medium of exchange in the ordinary sense you see that there are two transactions instead of one,—goods for money and money for goods. In every such exchange of goods, where the second part of the transaction is not put off into the future, money is used as a medium of exchange. I call that one of its functions. If, however, after disposing of your goods for money, you want to defer your consumption,—to put off your purchase into the future,—then I would consider money as a store of value; you hold it for exchange in the future. On the other hand, I would say that money is a measure of value in that you use it to measure the rate at which you exchange this thing for that thing; that also applies to a present exchange. But if you come to a standard of value for different times, if you want to determine what, at a future date, must be paid to consummate the transaction of to-day, then money becomes a standard for deferred payments. You may say very well that all these may be logically deduced from the one function of money as a medium of exchange. I agree with you there. It is only for convenience that we split up the one idea into the present and future time, and then into these ideas: first, what is the actual thing that is used to effect this transfer?—what is the medium by which this transfer is effected? and, second, at what rate is this transfer made?

THIRD GENTLEMAN.—What would be your objection to the definition of money that I have referred to? that it is that invention which aids exchange by avoiding barter.

MR. S.—I agree with you that that is a correct definition of what money does.

FOURTH GENTLEMAN.—I think the professor is right; that it is impossible to give an exact definition. It has been said that it would take a man some time to give a definition of what a house is,—a thing you see every day.

MR. S.—The trouble that I have always found with narrow definitions is that discussion is apt to become a war of words rather than a discussion of ideas.

THIRD GENTLEMAN.—Isn't the trouble, professor, with a loose definition, that a man is able to avoid the conclusion to which his premises lead?

MR. S.—Yes, if it is too loose.

FOURTH GENTLEMAN.—Let us take it in that matter of the establishment of banks doing away with the use of money. Is that a strictly correct statement?

MR. S.—We cannot get everything out in an hour. For the sake of avoiding confusion, I have tried to restrict our discussion as far as possible to the idea of hard money. We are coming to a time when we will discuss "soft" money, too,—that is, the substitutes for metallic money. We have been speaking about actual commodities used for money, and about metallic money, and we have not got beyond that yet, except in these unfortunate allusions that I have made. But there are two senses in which we use the word money. In one respect, most of us instinctively think of money as coin; and then, on the other hand, if we are not careful we begin to talk about money, meaning everything which does the work of money, even though it be not money according to our first idea. I think we will not have any dispute when we come to consider money substitutes.

FIFTH GENTLEMAN.—Does not General Walker say that anything that does the money work is also the money thing, and on the side opposite contradicts himself by saying that checks and bank-notes are not money, although they do the money work?

MR. S.—You will not find General Walker saying that bank-notes are not money.

SIXTH GENTLEMAN.—Are we to understand that a pound of silver in England is worth two hundred and forty pence, but that the shilling as coined is less than four pence?



MR. S.—When you started you had a pound-weight equivalent to a money pound; now you have a pound-weight about three times as big as a money pound. You have coined your pound-weight of silver into three times as many shillings, so that it is debased by two-thirds.

SIXTH GENTLEMAN.—Debased by alloy? or is the actual weight of the shilling less?

MR. S.—The actual weight of the shilling is less. I should have said that there are two methods of debasement: one by diminishing the actual weight of the coin, and the other by diminishing the fineness of the metal in the coin,—that is, by increasing the proportion of alloy. The English method has been almost always to cut down the weight, and not to introduce a larger proportion of alloy.

SEVENTH GENTLEMAN.—There is another question,—on free coinage. Say a person has a pound of silver and takes it to the mint. Does he get back that same pound of silver, with the alloy? In other words, will he have commercially more dollars than he took there in bullion?

MR. S.—We touch there a subject that I must say I have had a great deal of difficulty in explaining to my class at the University,—namely, just what is meant by free coinage and what by gratuitous coinage. The theory of what we call gratuitous coinage is that if a man brings bullion to the mint, say a hundred ounces of gold, that he shall receive back a hundred ounces of gold coin,—that is, a hundred ounces of the pure metal. That is the theory, but the practice of nations is different. In the United States at present the charge for coining gold has been removed, and a man now who brings gold to the mint to have it coined takes away the same value of pure metal in his gold coin that he took there, and he pays for the alloy. That is the method in the United States now, as I understand it.

EIGHTH GENTLEMAN.—To come down to a question of tonight, about abrasion: Why does the United States redeem

silver worn by natural abrasion, and not gold? Why is it that silver worn by use among people is redeemed by the government while it does not redeem gold?

MR. S.—Well, the silver coinage of to-day is practically a token money that is bought on government account and coined on government account. It is a matter of government speculation, and I suppose that is the reason of it.

NINTH GENTLEMAN.—You said you had not considered “soft” money yet. I do not know whether you meant that literally or not. There is a five-cent piece. The bullion in that, I am told, is worth less than a cent. Isn’t that just as much soft money, so far as its intrinsic value is concerned, as a greenback?

MR. S.—Yes, and that is the token coinage that I have been talking about. Token coinage is soft money.

NINTH GENTLEMAN.—Now, if that answers every purpose of a five-cent piece containing five cents’ worth of bullion, why couldn’t all our coinage be worked on the same plan?

MR. S.—If it answered *every* purpose it could, but suppose you have a commodity to buy in England, can you buy it with that five-cent piece?

NINTH GENTLEMAN.—No, you cannot do it in commerce.

MR. S.—You see, our commerce is international, and if we work on a merely national basis in our coinage we shall get into trouble.

NINTH GENTLEMAN.—Does commerce take any note whatever of the government stamp upon coins,—that is, international commerce?

MR. S.—There are certain coins which the English government, for instance, will receive without question. They will take United States gold coins without weighing them, if they have a good appearance, I understand, and some of the French coinage too.

NINTH GENTLEMAN.—I thought it was the universal custom to weigh all coins.

MR. S.—Well, if there was any doubt they would weigh them.

NINTH GENTLEMAN.—Do we export any great proportion of our gold coinage to pay balances?

MR. S.—Yes, there is a movement all the time of our coin.

TENTH GENTLEMAN.—Why does Herbert Spencer advocate private coinage?

MR. S.—It is a part of his general theory, which he could not consistently depart from,—that is, the theory of absolute non-interference in matters of private business on the part of the government. And then, more particularly, he claims that if any one who chooses is allowed to issue money, such money will circulate at its absolute bullion value, because there will not be the credit of the government to buoy it up; so that there will be a competition to produce good money on the part of the private coiners. It is strange that he should use this argument in the face of Gresham's law that good money is what goes out of circulation in place of bad money, but he does.

ELEVENTH GENTLEMAN.—Everybody would have to be an expert assayer in that case, wouldn't they?

MR. S.—Yes, if there were no certificate of fineness. If there were a certificate of fineness, we could get along after a fashion without a certificate of weight, but without the former everybody would be at the mercy of the issuer, and would have to depend upon his credit. In that case some one person would soon get the credit of issuing money of full value that could be depended on. But, when you come to that, there is no doubt that the government is the best party to do it.

TENTH GENTLEMAN.—Do I understand you to say that the good money would be forced out of circulation unless there was a legal-tender power behind it?

MR. S.—It would to some extent; but we have not all the facts in about Gresham's law yet.

TENTH GENTLEMAN.—I understood, if that law was correct, that a person buying a commodity would buy it with the poorer

money. The fact is that under certain conditions, as Herbert Spencer names, the party would not be obligated to take anything but what he chose to. He would contract for it if necessary.

MR. S.—But everything, then, would have to be left to special contract, and if money has any advantage over barter that advantage would be lost.



### LECTURE III.

#### PRODUCTION OF GOLD AND SILVER—HISTORICAL FLUCTUATIONS IN THE VALUE OF MONEY.

LADIES AND GENTLEMEN,—In connection with the subject of this evening I wish to recommend very strongly the book by Mr. Jacob, which is mentioned in the outline of reading. It was written in 1831; so that, unfortunately, it does not bring the subject down to the latest date, historically. But it is a book which, with a great deal of learning, goes into the whole question of the production and the consumption of the precious metals. It is quite an exhaustive treatise, yet not at all dull reading. On the contrary, it will be found very interesting, both in the facts which he presents and the way in which he marshals them. His style is, indeed, such as to really attract one to a subject that one would naturally consider dry.

Touching the later periods of production, there is a book by Mr. Patterson, an English writer, entitled "The New Golden Age," in which he discusses very fully and in a readable way the production of the precious metals, especially since 1848.

These two books would give a very thorough review of this subject.

This subject is one which it is very difficult to present within the compass of time which I have, and one which has had for me great difficulty in its study. Naturally, a subject of this kind, stretching back to the beginning of history, where the records are obscure, would be difficult. It was not the custom to keep track of such things in early times, and it is not until very recent times that we get reliable information. It is also difficult to present clearly a question which involves so many figures and facts, and I shall not attempt this evening to bring

before you any extensive details; but rather simply to give a general view of the subject. For we cannot expect, within the limit of these lectures, to thoroughly investigate the field before us; exploration must always precede settlement; and to explore is all which we can hope to do now,—simply to discover the landmarks of investigation and discussion. If, therefore, you find this lecture somewhat fragmentary, you will appreciate the reasons for it.

The history of the precious metals, since the discovery of Californian gold in 1848, I shall not attempt to discuss to-night, for the reason that the facts of that history are best connected with the discussion of bimetallism and the silver question, which we will take up more specifically at a later time.

Last week we were speaking of the Saracen and the Christian, of the European and the Orientalist meeting on the battle-field of Tours, and of the antagonism which existed between these two civilizations. I wish now to call your attention to another instance of that same antagonism, because it helps us to grasp the main features in the history of commercial enterprise. It is this which we are studying at bottom, for money exists merely as the instrument of commerce. Go back in mind, then, to Rome and the Romans a little over two centuries before Christ. The Romans, beginning several hundred years earlier than that as a collection of a few tribes, had consolidated themselves at Rome into one city, and had gradually pushed their conquests first to the neighboring tribes about them, then northward and southward, until by a series of successful wars they had obtained supremacy over all Italy.

During the same period there had grown up on the other side of the Mediterranean, in Africa, a great power centred at Carthage. The old Phœnicians, akin to the Arabs, akin to the Jews, a Semitic race opposed to the Aryan peoples of Europe, had been the great commercial people of antiquity. The Phœnicians were the people who taught commerce to the Greeks

and, through the Greeks, to Europe. They had established their colonies all through the Mediterranean; they had opened silver mines in Spain; they had carried tin from the mines of Cornwall down to Spain, and then shipped it to the East. Carthage, lying opposite Sicily, was one of their main colonies, and as finally the power of Phœnicia went down Carthage kept the Punic supremacy. When Rome, having pushed her conquests to the south of Italy, stood face to face with this rival on the other side of the Mediterranean, there arose the great, the oft-recurring dilemma of history,—which should have the mastery, the European or the Orientalist?

One of the most striking figures in history is that of Hannibal, the great Carthaginian who waged war against Rome. It is a very dramatic story, a story than which, perhaps, there is none more interesting. The Romans, when they had crossed over into Sicily, which Carthage was then contending for, met the Carthaginians, commanded by the father of Hannibal, Hamilcar Barca. That war was finally successful for the Romans, and Hamilcar was obliged to withdraw his forces to Africa. All his attempts to urge a proper defence on the part of Carthage against the aggression of Rome were in vain. He could not rouse them. They were a commercial nation. We know how a commercial people hate to fight. They would rather pay tribute, and so purchase the concession of power to carry on their commerce.

Hamilcar then attempted one of the most stupendous military undertakings that was ever tried. He conceived the idea of conquering Spain, establishing a kingdom there, and making that the base of his operations against Rome. There is no more splendid illustration in history of the power of an individual in conquering the force of circumstances, in mastering and leading his fellow-men, than the story of Hamilcar and his son Hannibal in that magnificent fight against the power of Rome. You all have read, doubtless, the story of Hannibal's crossing

the Alps, after he had built up his power sufficiently in Spain, descending upon the northern plains of Italy, taking the Romans by surprise, beating those warriors trained to war from infancy, those hardened soldiers who had scarcely ever known defeat, beating them, too, in every battle and bringing Rome itself to the verge of ruin, so that the battle of Cannæ has become the very name of national disaster.

And yet with all this, the boy who, at his father's knee at nine years of age, had sworn eternal enmity to Rome, and whose whole life was a carrying out of that oath, was finally beaten. The power of Rome, the power of a people against a man, was too great. Through the old Anglo-Saxon poems runs this refrain: "It was not so to be," by which our ancestors were wont to express that overwhelming idea of fate, or of a greater power than we, which drives us on to other ends than we choose. "It was not so to be" in Hannibal's case. The Oriental civilization, the Semitic race, was not to have the supremacy in commerce and in the Western world. It passed over to the Romans.

This bit of history, besides illustrating the course of commercial supremacy as it passed over from the Asiatics to the Europeans, serves also to illustrate the differences which distinguish the production of the precious metals before the Roman Empire from their production since.

We are told that when Hannibal was in Spain perfecting his schemes of operation against the Romans, there was a certain silver mine which he worked, and which produced him three thousand pounds of silver a day. It is found by careful computation that in the manner in which this mine was worked, and with the forces which he had at his command, this amount of silver did not pay at all, in a commercial sense, for working the mines. And this is the important point for us in this connection: that in the early history of the precious metals they were very rarely produced at a paying rate. We understand perfectly well that in the present day as soon as it is found that a gold or



silver mine does not commercially pay it will not be worked long.

Before that time, however, the production of the precious metals in one part of the world or another went on whether it paid or not, commercially. What was the motive for this? It was in part a mysterious motive. We do not understand just why it is that gold and silver have such a fascination for people. It is hard to say what is the use of gold and silver, and to what human motive they appeal. They are used as commodities, in the arts, for ornaments, or for household utensils and things of that sort; and they also have a use as money. But it is a question whether we could not carry on our life just as satisfactorily without these particular things. The fact, however, remains that in the early world princes were accustomed to get as large a treasure of gold and silver as they could. In those days slavery was prevalent everywhere, war was carried on much more constantly than it is to-day, and captives in war were usually degraded into slaves. Victorious princes, if they had gold or silver mines in their dominions, were accustomed to use these captive slaves in the working of their mines. These slaves had not such a fixed and high and commercial value as in later times, because they were got by capture. It was comparatively easy, therefore, to increase the number of slaves and to use them in mining operations which would not have paid commercially. Thus we find a plausible explanation of the way in which it was practically possible to produce such enormous quantities of gold and silver in that time. Records of such transactions appear in the Bible; for instance, in the decoration of Solomon's Temple, where an enormous amount of gold was used by a prince comparatively insignificant among the great kings and rulers about him.

One other fact should be brought out in this connection, and that is as to the use made of this enormous quantity of gold and silver. We have found already that it was not used very largely

as coined money. Where it was used as money it was mainly by weight simply,—almost a barter transaction. It was kept very largely by these princes as the sinews of war. They knew perfectly well that it was easy to carry on war if they had a large treasure. The soldiers were always ready to accept pay in gold and silver. It was used also very extensively for purposes of bribery in carrying on their political and diplomatic intrigues, and then it was used profusely in the decoration of their temples and public buildings and dwellings. But since it was not largely coined into money, its uses were mainly such as did not waste the supply.

Accordingly, we find that whatever was added to the world's stock of gold and silver at that time remained in the world, for the most part; it was not worn away, it was not lost; it was carried by capture from one king to another, and did not go through the ordinary channels of commerce as in these days.

We now come to the time of the Roman Empire, about thirty years before Christ. It is not necessary to recount here the successive steps by which Rome, after having conquered Carthage, extended her power over the East. Rome conquered Macedonia, which had already conquered Greece, so that Greece came under the power of Rome, and Asia Minor came under the power of Rome, and, eventually, Egypt came under the power of Rome. If you will picture in your minds the map of the Mediterranean, you will see that at this time the Roman power extended over almost the whole of the lands which surrounded the Mediterranean. Rome never got the whole of the African portion, but in the eastern part of Africa she had Egypt as one of her provinces, and practically the whole Mediterranean world, which was the important world at that time, was under the Roman sway.

You see, then, two important facts. The first is that the world, being under one government, one control, one overawing power, there was, to a greater extent than had ever before been

possible, universal peace. The wars which took place then, in comparison with what had been carried on before, were insignificant. The Romans acquired by capture these vast supplies of gold and silver, and, to a larger extent than had ever been done before, they made money out of them. Much more extensively than ever before they paid their soldiers with this treasure. They exacted tribute from those provinces of Asia and of Greece, and the tribute had ordinarily to be paid in the precious metals. Of course Rome extended her administration out into these provinces,—that is, she governed them by her own governors sent out there, so that the expenses of administration would be paid on the spot, but they took good care that there was always a surplus of tribute to be sent to Rome. In this way Rome accumulated, both at home and in the provinces, an enormous amount of gold and silver. Something like four hundred million pounds sterling is supposed to have been in existence in the world at the time of Augustus, the beginning of the Roman Empire.

The second important fact which so changed the aspect of affairs is this: the mining operations which had been carried on so extensively wherever gold or silver could be procured before, were discontinued to a large extent. The Roman system of working these mines was one not conducive to keeping up the supply. They were let out to farmers, who had short leases and worked only the best ores, and so very soon exhausted the mines for that method of working. The mines grew more and more deserted, so that five or six centuries after Christ there were practically no mines in the world worked in such a manner as appreciably to affect the supply of gold and silver.

At the beginning of the Roman Empire, as I said, there existed some four hundred millions sterling value of gold and silver in the empire. They were now put largely into circulation as money, which is, perhaps, the most destructive to gold and silver of any use to which they can be put. There were both a wasting of the supply and the cutting off of the sources of

supply. The consequence was that very rapidly the amount of gold and silver in existence declined.

It becomes necessary to consider here the theoretical question, What is the value of money? What effect does the quantity of money-metal have upon prices? We cannot expect to give an exhaustive review or statement of the doctrine now, but we want to understand the principles of it. It is easy to understand that if gold is used as the only money, and prices are adjusted actually to a certain amount of gold, and suddenly the quantity of gold in use is increased, prices will be affected. It is easy to understand that if all the gold in existence was used for money and gold was the only money-metal used, and the quantity of gold were suddenly and evenly doubled, prices would be double what they were before, other conditions remaining the same,—that is, it would take two ounces of gold to do the same work which one had done before. On the other hand, if you had this quantity of money-metal diminished by one-half, you would have precisely the opposite effect,—prices would fall one-half.

This illustrates, to some extent, what took place under the Roman Empire. With a decreasing amount of money-metal in existence, due to its wearing away as coin, with a larger and a larger commerce, which means a larger and a larger demand for money, the value of money rapidly rose and prices rapidly fell, so that by the time that the Western Empire came to a close, a little before five hundred years after Christ, prices were only a small fraction of what they were at the beginning. The extent of the depreciation is a hard thing to estimate. There was a stock of money-metal of something like forty millions sterling, against some four hundred millions before.

This measurement of general prices is a very intricate question, and one which no one really understands. The estimates of experts in these subjects vary so much that we can only regard it as a refined kind of guesswork after all. We do



know, in a general way, that prices rise and prices fall, but that is about all which can be said.

As to this undoubted decline in prices in the Roman Empire, however, the historians of Rome have raised the question whether the decline in prices had anything to do with the fall of the empire. The historians of Rome usually draw up a long list of causes for the fall of the empire, and, beyond doubt, this ought to be included in the list. This at least can be said, that we have the two things coincident,—the fall in prices and the fall of the empire. Now, it may be asked, what connection can there be between falling prices and the decline of a great nation like Rome? That brings up the question of a contracted currency or an inflated currency. It is easy to see, I think all would grant, that there may be a state of things in which there is not money enough to do properly the money-work in a community; or that there may be another state of things in which there is altogether too much money.

It is agreed by economists and by people generally who look into the subject, that an extensive change either way, from more money to less money, or from less money to more money, is a disastrous thing, and it may easily be granted also that, with prices continually and rapidly falling, trade and commerce might be so discouraged that there would be a real decline in the prosperity of the people. I do not wish to dwell upon this subject here, but I only indicate the lines along which this argument runs, so that you may think upon it and see if there is anything sound in the position.

We come now to what is called the Middle Ages, between the downfall of the Roman Empire and the discovery of the New World. This age has generally been called the Middle Ages, but, with reference to our subject, "The Silver Famine" would be a good name.

For several centuries after the fall of Rome,—down, in fact, to the year 800,—there was practically no production of the precious

metals,—none that amounted to anything. I mentioned the other night how, about the beginning of the eighth century, the Saracens came over from Africa and took possession of Spain. The Saracens brought with them a learning which the Europeans at that time did not have. They understood the working of mines, and they began to revive the mining industry of Spain. Spain has always been a great silver country. From that time on there was produced a small but increasing stream of the precious metals, of silver especially. Enough, at least, was produced from the mines to keep the supply from further diminishing, so that we would not expect to find, other things being equal, that prices changed much during that period,—from about 800 A.D. to 1500 A.D.

To understand properly the condition of commerce and of society in general during this period a glance is necessary at the peculiar political organization then prevailing,—the feudal system. The essence of the feudal system, in one respect, was payment in kind,—that is, each lord received certain services, not in money, but in actual service, or he received a portion of the produce of the land as his share, and to every position was attached some service, personal or otherwise; so that we have a condition of things through a large part of the Middle Ages in which payment in kind was the rule, and comparatively little money was needed.

Another fact in the feudal system was the isolation or breaking up of society into little groups, somewhat after the manner of the plantations in the South before the war, although with less connection between the parts and with larger power in the hands of the land-owners. These petty groups, scattered one here, one there, filled the country. In such a society there could not be a great commerce. There was very little communication between one group and another. Each group was proud of its independence and its self-sufficiency.

This was a state of things which the small amount of gold

and silver in the world fitted exactly, so far as a commercial use of the precious metals was concerned. They did not need those metals for commerce, and under the conditions in which commerce has historically been carried on, an extensive commerce would not have been possible without a greater supply of money material. There was no large and important revival of industry until there came a larger supply of money, or the hope of a larger supply. I do not mean to say that the deadening of industry was the necessary consequence of the dearth of the money-metals. There were other and more potent forces than that, but the dearth of currency was one striking characteristic of that time, and that this was one cause of the continuation of that commercial deadness in the Middle Ages seems to me clear.

We come now in 1492 to the discovery of America. This event produced very little change immediately, but in 1545 or thereabouts there were some enormous discoveries of silver in South America at Potosi, in what is now Bolivia. It has been estimated that the annual production of silver after that discovery was something over two million pounds sterling,—nine or ten million dollars. The total supply was very small at that time,—perhaps forty millions,—and suddenly there were added two millions each year to that stock, an increase which would have doubled the supply in twenty years. A tremendous rise in prices followed this increase in the stock of silver.

There is one fact to be borne in mind in reference to this: you must not look for the effect immediately. At that time the means of communication were not so great as they are now, and it was not so easy for commerce to be carried on. Consequently for a long time after this discovery began you do not find the effects felt in Europe that you would expect; but perhaps twenty-five years after this discovery of Potosi prices went up in England and in Europe generally.

There is good evidence that the economic effects of this inflation of prices in England were far-reaching. General Walker's

book briefly outlines the facts. The gentlemen of the country, living mainly on fixed money rents, had to cut down their scale of living, owing to the decrease in the purchasing power of money. At the same time, under the stimulus of higher prices for English wool, farmers turned their ploughland into pasturage for sheep. Great numbers of servants were accordingly discharged by the impoverished gentry, and great numbers of farm laborers, no longer needed in agriculture, were discharged by the new wool-growers. Hosts of wage-earners, likewise, became needy and destitute, owing to the fact that prices of commodities rose more rapidly than wages. Poverty became general, and the famous pauper legislation of Elizabeth has been attributed chiefly to this cause.

On the other hand, the effect of this new money in developing commerce was marvellous. A flourishing and extensive trade with all quarters of the earth was rendered possible by these new treasures. The thirst for the precious metals, with the increasing supply of money, at once stimulated discovery of new lands and made available the new discoveries to quicken industry in the Old World and promote a world-wide commerce. The money of the New World became a mighty agency in the Renaissance, —the modern progress of mankind.

It was Spain that introduced these precious metals into Europe, and from Spain they were carried by commerce into other parts of Europe. I wish to call attention to a fact which has been very important for America in its results. The dominant motive which led Spain to colonize this country was the search for the precious metals, for gold and silver. The main motives of the English colonization, on the other hand, were a desire to extend their trade, and at the same time to settle and build up permanent communities, new political corporations, and new nations.

You will see, then, in the history of American colonization, how the Spaniards did not choose the north when they found that there was very little gold and silver to be got in the northern



part of this country, but they colonized wherever gold and silver were to be found, and to that fact is due the course of the subsequent history of America. The Spaniards, pursuing their immediate gains, not only eventually ruined their own commercial supremacy in Europe, but they founded a series of unstable nationalities on this continent. Of course national character has had much to do with that, but not all, for the Spaniards are capable of stable government. It was rather the lack in their colonization of any far-reaching policy for permanent industrial and political establishment which has made so different the history of Spanish and English America.

This discovery of the silver mines of Potosi is the one great fact in the history of the production of the precious metals before the discoveries in 1848 of Californian gold, and in 1851 of Australian gold. Since the later date a new silver age has begun in the discovery of the Nevada mines, but for that whole stretch of three centuries there is no very important fact for us to remember.

There are, then, only four grand divisions of our subject. First, there is the vast wealth in gold and silver of the ancient world, with its characteristic differences in production and use. The dividing line we mark, for convenience, by the beginning of the Roman Empire, or of the Christian era. Secondly, there is the declining stock of the empire, culminating in the long dearth of the Middle Ages, and reaching to the discovery of America. The third period is marked by the discovery of America, of a new world, with its exhaustless gold and silver, resulting in the reawakening of Europe and in the civilization of this continent. The fourth period begins with the gold of California in 1848. In this nineteenth century, contemporaneous with the great inventions which have made our commerce what it is,—I mean the invention of the railway and the steamship and other methods of quick transportation,—along with these we find these enormous discoveries of the precious metals: the two instruments of commerce, steam and money, side by side. In the later history

of the world we find a very striking coincidence between the revival and extension of commerce and industry and the discovery of the precious metals. It is true of the sixteenth century following the discovery of America. It is pre-eminently true of the latter half of the nineteenth century. Which is cause, which is effect, or whether both are not rather the results of deeper causes, cannot clearly be determined. But the coincidence remains a fact.

*Questions to the class to answer during the ensuing week :*

1. The relation of the quantity of gold and silver to prices.
2. Did the falling prices of the later Roman Empire cause or hurry the decline of the empire?
3. Why was the rise of prices from the Spanish imports of silver so much greater and more violent than the rise since 1848?

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#### DISCUSSION FOLLOWING LECTURE III.

MR. SHERWOOD.—The papers which were handed in last week were, on the whole, very satisfactory, although a fuller discussion of the questions would have been better. Brevity is a very good thing, but a good deal more might be said on these questions than the papers, as a whole, contained without injuring the quality of the papers. Of course I do not mean that they should be made long for the mere sake of length, but that they should be made an object of study, and that to such an extent that each one who writes a paper will try to contribute something more than has been said. The papers should show a real thorough reading and study of the particular topic treated.

A question in one of the papers I wish to answer here,—as to whether our mint actually makes any charges for coining gold. Upon inquiry at the mint I was told that there was a charge for alloy, as I stated, and further than that, a charge for parting the metals, as they call it. In one or two of the processes they make

a small charge, practically nominal, that goes to cover some of the expenses of coining. It would be a very good idea for those of you who can and who have any interest in it to go through the mint and get such information as you can about the processes of coinage.

A GENTLEMAN.—I would like to ask if the attainment of a certificate at the end of the course depends upon the number of papers one sends in. It seems quite difficult to prepare a paper in such a short time, and the books mentioned by you are very difficult of access.

MR. S.—I supposed that most of those books would be in the libraries of the city, but I may be mistaken.

FIRST GENTLEMAN.—To give my personal experience, I went to the Mercantile Library one day and tried to obtain two or three of them without success. I went to the University Library and could not obtain them there. I went to the Wharton School and succeeded in obtaining one of them, after two or three days, and derived some satisfaction from that, but not enough to enable me to write a paper.

MR. S.—I suppose the only remedy in this case is to stir up a little feeling for economics on the part of the libraries in the city. The Wharton School and University Libraries together contain very nearly all of these books. The Wharton School Library is used largely by the students there, and is not available for the general public; but the University Library is a public library. Of the early literature of money, and down to about 1850, the University Library has one of the very best collections in the United States, if not in the world. In regard to the point you raise I will say, that if satisfactory papers on six lectures of the twelve are handed in, I will regard that as sufficient. Usually a larger proportion is required, but inasmuch as this is a course of twelve lectures instead of six (the usual number in a University Extension Course), I will regard six satisfactory papers as sufficient.

SECOND GENTLEMAN.—In regard to coins, I would like to ask you what is the English standard unit of value. Is it a coin or is it a weight?

MR. S.—The English standard now is both a coin and a weight since the change to the gold standard.

SECOND GENTLEMAN.—What is the unit?

MR. S.—The unit is the gold sovereign.

SECOND GENTLEMAN.—I recently read a statement by Edward Atkinson to the effect that in England there was no standard coin, but it was a weight fixed by law, and that the sovereign was not the standard unit.

MR. S.—I do not so understand it. Before the change to the gold standard, for quite a long time, there were no pounds coined. In fact, there never was a silver pound coined so far as I know. But when the change to the gold standard was made the gold sovereign was coined, and the gold sovereign was made the unit of value, as I understand the law. That was in 1816.

THIRD GENTLEMAN.—What do they mean by pound of account?

MR. S.—I can illustrate that in this way: You often hear in this country shillings spoken of,—a thing costs so many shillings. That is a money of account. It is not a coin. It is the way in which we used to keep our accounts. When the American dollar was made our monetary standard, at the establishment of the United States, accounts were kept in pounds, shillings, and pence, and for some time after our currency was thus changed to the American system we still had a money of account of pounds, shillings, and pence.

A LADY.—In view of the theory of money, which is that money is a medium of exchange, and that anything which effects exchanges is money,—that is the cardinal test, I believe,—are not political economists unscientific and illogical to treat money as a commodity?

MR. S.—What would be your reason for so regarding them?

LADY.—Because, as Mill says, there is nothing more utterly



insignificant than money in itself; it has no intrinsic value; it must of necessity derive its value from that which it represents,—namely, commodities. Now, paper money has no intrinsic value in itself, and if it be treated as a commodity, why is it not amenable to the laws which govern the production of commodities? There is no demand for any commodity so great as the demand for money, and yet, notwithstanding that the cost of production is relatively insignificant, for the most of our currency is paper, yet the supply is very limited indeed. Therefore it does not conform, even as a commodity, to the laws which govern the production of commodities. Will you kindly explain why it is that this commodity is so unique in proportion of the supply of it to the demand for it?

MR. S.—The confusion which arises here is due to the use of money in two senses. In the first place, the term “money” is used to represent gold or silver or some other actual commodity which has a value in itself as a commodity outside of its use as money. In the second sense, “money” is used by many political economists,—not all,—by many practical men,—not all,—to include what we call paper money, representing *money* as such. This double use of the term “money” is vague and unscientific; unscientific because we find some persons using the term first in one sense and then in the other, and drawing conclusions in that way, with reference to the larger meaning of money, from premises based upon the narrower meaning of money. I think the whole confusion lies there.

LADY.—That explains that perfectly; but why is the supply limited when the relative cost of production is insignificant? Now, all other commodities are produced in a ratio somewhere approximating the demand for them but money. There is an immense demand for money, and the small supply certainly is not on account of the cost of production. Now, there must be some cause. Money is not handed down to us from the skies. There is a cause why we do not have money in any degree com-

mensurate with the demand for it, and it is that cause which I am seeking. Will you kindly explain?

MR. S.—There is undoubtedly a demand always for a great deal more money than there is. There is no question about that. But there is a similar demand for commodities in general, not for any particular commodity, as wheat or iron, but the world never gets too much of commodities, of things it can use. It may get more than enough of some one particular thing because it is produced in greater quantity than can be used where it is available; but the world as a whole cannot get too much of commodities as a whole. Well, now, if money is the universal purchasing power, the two things go together. You cannot get too much money,—that is, there will always be a demand for more money; because with money you can get the commodities that you want. The demand for money is simply a demand for the means of getting these other things.

FOURTH GENTLEMAN.—I was in hopes that some of the young bankers about me would say something about money being a commodity. I claim that money is a commodity. It may be to-day worth to you only five per cent. per annum, but ten days or a month hence you may see a chance where you could make twenty-five or fifty per cent. out of it. It would pay you better then to borrow the money at fifteen per cent. than it would now at five per cent. Therefore money is a commodity, and is worth only what it will bring.

FIFTH GENTLEMAN.—Money is only valuable as an article. Whatever we wish to buy or to acquire, money will purchase. If I buy of you a barrel of flour I must pay you for it; it is due to you. But I might trade some other article for it and no money would be needed to settle that exchange. Whenever there is a balance in our commercial relations with one another it must be settled with money. Hence money becomes a commodity just like the barrel of flour. The word from which the term money is derived means riches, property, wealth; it has all those significations.

SIXTH GENTLEMAN.—Isn't it a mistake to call paper money money? Isn't it simply a promissory note? Isn't it entirely a mistake to use any other name for it than a promissory note?

MR. S.—How could you distinguish it, then, from other promissory notes?

SIXTH GENTLEMAN.—One is the promissory note of a government or a bank, and the other of an individual. One is guaranteed by a corporation which is supposed not to require any endorsement, and the other, the paper of an individual or a private corporation, is supposed to require an endorsement.

MR. S.—It is one objection to that on the surface that it would be too long a name. "Government promissory note" would not be a convenient name. The real trouble lies in the twofold view of money to which we have already alluded. Some people prefer to take the view which you express there, and call by the term money only metallic money,—coin. If you take that view, and keep to it constantly, no one can object. In the same way if you include, as General Walker does, in money everything which does the money work,—that is, paper money and bank-notes,—and if you keep to that consistently, the other school of thinkers cannot justly find fault. The only thing necessary is that we understand clearly which one of these ideas we have in mind in our discussions. If you keep to either of them consistently you are all right.

SIXTH GENTLEMAN.—I raised the question because it seems that questions have come up in which there was some doubt what was meant by money. In some cases it was confined to hard money and in others it included paper money as well.

MR. S.—That confusion runs through all the books. One writer takes one view and one the other.

SEVENTH GENTLEMAN.—If the gentleman is consistent in his use of the term money, then if he should speak of a silver dollar he would speak of eighty cents of that as money and the other twenty cents as a promissory note.

EIGHTH GENTLEMAN.—Regarding your statement as to the value of gold, I would like to ask several consecutive questions. You said that if the quantity of gold were doubled, the value of gold, the purchasing power, would be just one-half. Now, I can fully understand that if in the past instead of each ounce of gold two ounces had been found with the same amount of labor with which, in fact, only one ounce was found, and if for that reason we had two dollars for every one,—that is, fifty ounces of gold instead of twenty-five ounces,—that then the value of each dollar, the purchasing power of each twenty-five ounces of gold, would be just one-half of what it is actually now. But if the doubling of the amount of gold were on the basis that we could double the amount of gold to-day, while at the same time the production of each twenty-five ounces would require as much labor as the production of any other commodity now worth one dollar, I would like to know whether under those circumstances the purchasing power of the dollar would be one-half of what it actually is. That is the first question.

MR. S.—Well, you are getting pretty deep into theory. There is one trouble in every question of that sort. If you accept without modification the view that the cost of production measures value, you get into difficulty with the question of gold and silver, for this reason: that while wheat, for instance, has an annual supply and an annual demand, there being no surplus that can be long carried over, with gold and silver, on the contrary, there is such an enormous supply in existence that the yearly production is insignificant in comparison with it. The different periods during which the production of different commodities is carried on, and the different relations between the amount of the commodity in existence now and the annual production, seem to me to make a very serious difference.

EIGHTH GENTLEMAN.—There is another question. John Stuart Mill says that if the supply of any commodity is increased the value will fall; if the supply is reduced the value will rise; but



the fall in case of an increased supply or the rise in case of a reduced supply is not at all, or is not necessarily, in the same ratio; that is to say, if the supply is reduced to one-half, that does not say that the value will double; it may rise very little, it may possibly not rise at all, or it may rise ten, twenty times, a hundredfold if the supply is reduced to one-half. On the other hand, although an increase of the supply will lower the value of a commodity, the lowering will not necessarily be in the same ratio,—it may be fast, it may be slow, according to the nature of the commodity; some commodities may fall slowly, some fast, as the supply is increased. Now, why should it be that gold is the only commodity the value of which falls or rises in an equal ratio directly or inversely as the supply? Why should gold make that peculiar exception from all other commodities?

MR. S.—I was afraid I should get into difficulty when I put my illustration, and I tried to guard myself by several provisos. I said, if there was no other use for gold than just the money use, if all the gold was used for that and nobody wanted it for anything else, if other things did not change, if the demand for gold did not change, if the needs of commerce remained just the same, if everything else remained in the same condition as the condition you started with, and then you doubled the amount of gold, the effect would be as I said. But, as a matter of fact, you cannot get any such conditions. I do not mean to preach the doctrine here at all that if you double the money supply you are going to double prices. I mean that if you could eliminate every other element of change except the increase of the supply of money, then the increased supply would have that effect. The same thing would apply to wheat. It seems to me that if you had just the same demand for wheat that you have now, and you doubled the amount of the available supply, the value would fall to one-half. Yet there is still another difference that has been brought out here, an important difference between the

demand for the precious metals and the demand for other things. As has been intimated, the demand for the precious metals is insatiable; the demand for any particular article of food is not insatiable. An unlimited supply of gold, you may say, will be used up; an unlimited supply of any other particular article will not be used up. I only meant that if you could get a hypothetical case in which there was no other change possible except an increase or decrease of the supply, then you would have that effect produced.

NINTH GENTLEMAN.—You say, *if* we take the view that value is determined by the cost of production. In actual fact is it optional with us whether we take that view or not? Is value in exchange really determined by cost of production? Are there not many factors and various other causes that give a very large value in exchange in addition to cost of production?

MR. S.—I understood the point raised as resting upon that assumption, that the cost of production did fix value. Personally, I do not hold that view. I do not think that you can regard cost of production as the determining element in value.

EIGHTH GENTLEMAN.—I understand, then, that in the hypothetical case, assuming other things equal, the doubling of the quantity of money will reduce the purchasing power of each unit to one-half. If that is so, then the doubling of the quantity of money cannot change the purchasing power of the sum total of all money,—that is, if we double the number of dollars, the purchasing power of each dollar being one-half, the purchasing power of the sum total of all money will remain constant. Then I understand that the value of the sum total of all money is determined by the demand for money for commerce,—that is, this is one of the principal factors that determines the value of the sum total of all money. On that hypothesis, now, if that is so, if the value automatically adjusts itself to the demand of commerce, whether the number of dollars is great or small, how is it possible that at any one time there can be too

much money or too little money? Will not that law that you have stated always adjust the value of the sum total of money precisely to the demand of commerce?

MR. S.—It will not always. One reason is, that you cannot have perfect freedom of supply in exchange. Exchange is always with friction, and some of the money which is put into existence is more active than the rest. Some performs half a dozen exchanges while the other is hidden away. In practical life you cannot get a condition of things in which you can argue the way you can argue in geometry, for instance. You cannot get your conditions free from variable elements. That is the reason why you cannot tell how that is going to work out. In a new country commerce is expanding all the time; that makes a constantly-increasing demand for money. So that, as some one has said, it is not the more money or the less money, it is the change from one condition to another which produces the disturbance; it is the mere fact of changing to more money or to less money after things have once got adjusted to a certain status.

EIGHTH GENTLEMAN.—I believe you stated that when the California gold was discovered there was a revival of industry. Does that not show that the addition of more gold to the sum total of all money has really increased the circulating power of the sum total of all money, and thereby enabled the sum total of all money to better perform its work and help in the subdivision of labor? Is not that a proof that the addition of gold to the sum total of all money has really increased the power that money had, and has given an impetus to industries by permitting a better division of labor?

MR. S.—I would not allow your statement at all as an invariable doctrine,—I mean as an absolute principle. That in particular cases such an effect does come I admit. What I meant is, that with a growing demand for money we want more money to do that thing, or else we get a condition of contracting prices

which produces hardship upon one class of people. A rapid contraction of prices or a rapid rise of prices are both of them bad economically, and to go on your principle and say that an actual increase in the number of dollars gives an increase to the efficiency of the dollar, and say that it would do that indefinitely, would be a very serious error, it seems to me. That under particular conditions of trade that might have a beneficial effect I would grant.

EIGHTH GENTLEMAN.—Then it was those particular conditions which produced the revival of industry, and not the discovery of gold, according to that statement.

MR. S.—Well, as I said, these two matters run side by side. It is hard to tell which is the cause and which the effect, and, as in most cases of that kind, so here you will find that they act and react on each other.



## LECTURE IV.

### SUBSTITUTES FOR METALLIC MONEY—CREDIT-MONEY AND CREDIT.

LADIES AND GENTLEMEN,—In taking up the subject which we have outlined in this fourth lecture—substitutes for metallic money; credit-money and credit—we come upon a question which is full of trouble and of pitfalls. There is plenty of chance for logical error, as for error of every sort, and we shall need, in all our discussions, to remember that we are here not to strive with partisan zeal for one opinion or another. Our object is simply to try to get nearer the truth, to bring out new facts and new views, to lead us all further on into the study of these questions. Our object is a scientific one, it is a philosophic one, it is one in which we should aim to lay aside all feeling of partisanship and to reach some real and profitable knowledge.

Remember that I do not claim, in any views which I may express here, to be in any sense infallible. The subject is one which is very difficult to be understood, and I do not claim fully to understand it. Remember, therefore, that I am perfectly willing and glad to have any difference of opinion expressed on the part of any of you upon any of these questions, and I hope that all our discussions may be carried on, not in a disputatious spirit, but in a spirit which shall be calm and critical and scientific.

I have omitted, in the main, the somewhat theoretical observations in the first part of the syllabus, under the heading "Origin of Credit-Money," because I wish to spend the entire hour in setting out the purely historical side of our subject.

You notice that I have used the term "money" as including

money-substitutes, or, better, credit-money; and, therefore, I do not expect to be held down to a definition of money which means only metallic money.

If we look at the way in which representative money has come to be used we shall find that it is not a late or a modern invention, by any means. It is said that long before the Christian era the Chinese were in the habit of using what was practically a paper currency. It was, in fact, a leather currency, but the same principle would apply to that as to paper. It has been supposed that the way in which the use of a leather currency arose was this: that a piece of leather was used to represent the whole skin of an animal, in the days when the hides of animals were used as money. Be this as it may, we find that leather has been used, that the bark of trees has been used, and we have already discussed the use of light-weight coin, a coin which is merely a token with a nominal value, as copper in place of silver, or light-weight silver in place of full-weight silver. These are, in a sense, representative money.

The idea which underlies all this class of money, you will see, is that the money is not an article which essentially has value in itself, but something which represents that which was previously used as money. From our study of the origin of money we have seen that money came from the use of one commodity in preference to all others as the common medium of exchange. Now we go a step further and come to a condition of things where a medium of exchange is used which has not a distinct use as a commodity, but which represents such a commodity; which has not value in itself, but which represents value. If you consider for a moment a state of barter, of direct exchange of one good for another, and then consider the use of some medium of exchange, you will see that a system of indirect exchange might be worked out by which barter could be still accomplished; in other words, there might be a medium of exchange which had not value in itself, but which was merely a ticket,

giving the right to claim so much of any commodity that was chosen. That is a question which I will not discuss at this lecture, but offer as a good subject for further study. There have been several schemes of that sort, proposing to do away with a value-money. The proposition of the celebrated German, Rodbertus, is a notable instance.

I wish rather, this evening, to emphasize the historical growth of credit. And first let us look back to the Middle Ages, to the time before our modern credit system arose. Feudalism was dominant at that time. The essential feature of feudalism, as we have seen, was the isolated group. After the empire of Charlemagne had broken down and nearly every country in Europe had fallen into a condition of virtual anarchy, in which there was no real government and scarcely any cohesive form of society at all, there grew up a system of landed estates, at the head of each of which was a lord. Each lord owed, nominally at least, allegiance to a superior lord, from whom he held his estate, and the climax was reached in the lord paramount, who was king of the country. Each one of these groups was complete in itself, except so far as it was linked with the one higher above it and as it might be connected with a lower subdivision, parallel groups having no organic relation to each other. Nor was it merely the agricultural land which came under this system; but cities and towns were likewise made feudal and belonged to some lord in the same sense in which the farms did.

We have already called attention to the lack of commerce, the commercial deadness of the Middle Ages, and to the connection of this fact with feudalism. This point needs new emphasis here. Among these groups, isolated as they were, each living within itself, each in a state of warfare or of armed neutrality with every other, there could be no extensive commerce. Neighboring feudatories might have a small and unimportant trade with each other; but the one feature of that age, in the political life, in the social life, and in the commercial life, was isolation.

Force was the sole cohesive bond so far as the relation of one group to another was concerned.

In England the king was strong enough—William the Norman and his successors—to hold in subjection the great lords and to bring in direct relation with himself each of the smaller feudatories. In France and in Europe generally the condition was otherwise, and the great lords were sometimes greater than the king.

I have called attention to the cities. It is to the cities throughout Europe that we must look for the revival of commerce, for the building up of the new age. There was a spirit of freedom in these cities which did not characterize the agricultural districts. They could not be dominated so well by the lords. There was a freer life and greater intercourse, necessarily, within a city; the isolation of which I spoke was to some extent broken up; a certain amount of trade was carried on; manufactures were developed; there was, in a word, a social, a political, and a commercial activity in the city which did not obtain in the country at large. Slowly there came about the intercourse of one city with another, the interchange of manufactured articles, the emigration of artisans from place to place, an actual commerce. There had prevailed a lack of confidence of man in man, of community in community,—a hatred of everything outside of one's own town, a provincialism of which we can have no idea in this railroad age. But with this growing commerce the old feelings of distrust gradually broke down.

There was in this system one class of people which was ostracized everywhere,—the Jews. They had no standing in Europe except among the Saracens in Spain. That Eastern people, that infidel people, extended to the Jews a charity which the Christians did not. These Jews were outside of the pale of the law throughout Europe. It was but natural, therefore, that they should be banded together, not only by their historical traditions, but also by the very fact of the universal abhorrence and persecu-



tion shown towards them. If they lived at all they must stand together, for every man's hand was against them otherwise; and we are not surprised to find more of this mutual confidence of man in man among that despised race than among other people. Besides, the natural independence of the Teutonic peoples, the intense spirit of individualism which has ever dominated them, is not a force conducive to the development of a system of credit. Germanic peoples are hard to civilize.

It is natural, then, that we should look to the Jews as the first people to use commercial credit in the modern European world.

The force of circumstances made the Jews likewise the first money-lenders. The Christian Church forbade the taking of interest on a loan of money. The Jewish Scripture forbade the taking of interest from a Jew by a Jew, but the law did not forbid taking interest from a Gentile. It was a very convenient thing on both hands, therefore, that those Christians who wanted money, and who could not lawfully obtain it from other Christians, could borrow from the Jews. The Jewish laws very conveniently permitted the Jew to accommodate his Gentile borrower. And so there grew up a system of money-lending by the Jews to the Christians.

It is an undoubted fact that the Jews abused this privilege, that the charges for interest were often exorbitant, that they often took advantage of the needs of the borrowers, but that is not anything characteristic of the Jews as a race; it is characteristic of every class of people which has an advantage over other people.

To the Jewish merchants and money-lenders of the mediæval cities we look for the beginning of the modern system of credit and instruments of credit. The principal route of the reviving commerce was from Italy through the German towns of the Rhine country into Holland, and then over into England. Merchants began to see that it was not necessary to send their money in payment of the balances that were due for the goods

which they purchased, but that they could send instead a letter directing some debtor of theirs to satisfy the debt.

The bill of exchange, in its origin, then, was simply a letter from one business-man to another or from one friend to another, asking him to pay a certain sum of money to the bearer of the letter or to a certain person named in the letter.

Insecurity of travel in those days was a natural consequence of that isolation that we have seen. Robberies were frequent upon the highways. It is only within perhaps a century in England that travel from one part of the country to another has become really safe, and in our own country even, with our great railroad systems, we read only a few days ago of a successful train-robbery in one of the most populous and richest parts of our country,—Central New York. But at that time the insecurities of travel were immensely greater than they are now. It was a very dangerous thing then for men to carry money from one place to another. These circumstances increased the use of bills of exchange.

We must not imagine, however, that these bills of exchange and other credit instruments are only modern inventions. I was interested recently in looking over some ancient accounts found on a collection of tablets from old Babylonia. They dated from the time of Nebuchadnezzar, five or six centuries before Christ, and one of them is very clearly a promissory note, wherein one man acknowledges a debt to another man and promises to pay at the end of a fixed time a certain amount of grain or a certain amount of money. When the time drew near for him to pay the note he renewed it; there are several renewals written upon the tablets. Such instruments, then, were in use several hundred years before Christ, but went out of use again after the fall of the Roman Empire and the incursion of the Germans from Western Europe, so that they had to be invented over again in modern times.

Let us look for a moment at the nature of the bill of exchange

and the promissory note. We have spoken before of the importance of that element in our commercial civilization by which, instead of exchanges being completed in the present, each man taking the goods of the other, or one man taking money in exchange for goods, men are accustomed to trust each other upon promises to pay, creating a system by which payments may be made in the future. This is one great characteristic of a commercial civilization, and this is the essential nature of the promissory note and of the bill of exchange. They are both varieties of the same sort of instrument, a credit instrument by which one man gives credit to another, has confidence in the other, believes that he will pay, and risks whatever is risked in it. It is upon this fact, this metaphysical fact, this spiritual fact, this sacredness of commercial agreement, that our credit system is really built up.

Money and credit, money and the banking system, are not merely material things. They do not deserve the transcendental sneer so often given to them by people who misunderstand their nature. It is one of the very highest developments of human nature, this confidence of man in man, upon which rests the system of credit as an instrument of commerce.

We have spoken of the lack of credit in the Middle Ages. We have spoken of the rise and beginning of the credit system. We wish now to speak of another fact: of the organization of credit. You will easily understand that if the use of credit and credit instruments is merely between individual and individual, it cannot in that hap-hazard way attain any but a limited and meagre development.

A great historical fact becomes interesting in connection with early banking,—the effect of the Crusades upon the feudal system. You all understand what the Crusades were. They were another phase of that race problem which has been called to your attention several times before: the conflict between the Western and the Eastern civilizations, the European and the

Asiatic, the Christian and the Saracen. These expeditions, which were undertaken by feudal Europe to reclaim Jerusalem from the hand of the Moslem, resulted disastrously, as you all know, for the arms of Europe. They were a military failure. There was an ephemeral kingdom established in Jerusalem, but the object for which these Crusades were undertaken, the recovery of the Sacred City from the Turk, was never accomplished.

But these Crusades became the origin of a system which has been of infinitely more importance than the possession of Jerusalem and the tomb of Christ could possibly be. We have come to see in our day that the possession of this sacred place is of no importance whatever to a nation, but we are enjoying the benefits of the process which began at that time.

A few facts will illustrate my meaning. In the first place, vast numbers of Europeans were brought into contact with the Saracens, and they learned something from the Saracens. They learned that the men whom they thought to be rude, uncivilized infidels, a barbarous race, were more civilized than they themselves; that they had more of science, more of learning, more of culture, more of humanity, more of everything which goes to make a people good and prosperous. They learned likewise something beyond the narrow limits of their own country; they got the advantage which one gets always from wider travel among other people; they lost some of that provincialism which they had; they learned to see that there was something good in the world besides that contained in the narrow town or the narrow country where they lived.

If you object to this as a sentimental and illusory advantage, then we can point to a solid, a tangible advantage which did come,—a commercial advantage. Trade with the East was thus brought about, and one easily notices the effect upon the whole character and development of Europe subsequently, of this revival of trade with the East. The Italian cities, especially



Venice and Genoa, which had before a half-developed trade with the East, became very important at this time. The Crusaders pressing down to the Mediterranean had to get over to the east shores of the sea. These Italian cities, having fleets, became the carriers of the armies to the East, bringing the Eastern people into contact with the Western. The armies took articles of European manufacture to the East and brought back to Europe articles of commerce from the East, inaugurating a vast extension of the Oriental trade. The revival of that trade is one of the great facts in the history of modern civilization.

As an interesting incident I may mention that during this time we have the account of Marco Polo, a Venetian traveller, who went throughout Asia, spending a large part of his life there in the employ of the Chinese government. This was in the thirteenth century, and he has brought us a very interesting account of the representative money which he found in use in China,—not strictly paper money, but made out of the bark of trees. He visited Japan, which he called Zipan-gu, and it was the story of his travels which later stimulated Columbus and Vasco de Gama to look for a new route to India.

The Crusades, therefore, opening up the East to the West and the West to the East, brought about a revival of trade and an extension of knowledge in every way, thus creating the conditions for the growth of new commercial systems.

In 1453 the Turks took Constantinople. This cut off the trade of the Italian cities with the East. Columbus, the Genoese, then started to look for a new route to India, with the result, as you know, of the discovery of America; and Vasco de Gama undertook to find for Portugal a like route. He sailed around Africa and opened up that route to India. These events virtually destroyed the commerce of the Italian cities by throwing the trade into the hands of the Portuguese and the Spanish, and later the Dutch.

We are interested, therefore, in this revival of trade; for if

there is anything in the theory I have been trying to bring out of the connection between the credit system and the extension of commerce, we expect to find what we do find: that these Italian cities were the first to develop a system of banking, and that the Dutch developed the system still further. As a fact, there were in all these Italian cities banking institutions. Florence was really a great financial centre for a time. A bank flourished there; of course, not fully developed like our modern banks, but still a commercial house doing a banking business. Likewise in Genoa and in Venice we find these banks. I will not dwell upon them, because I wish to speak of the bank which was established in Holland, the Bank of Amsterdam. This was over a hundred years later, in the beginning of the seventeenth century. By that time the supremacy in commerce had passed over to Holland.

There was a large quantity of coins of all kinds in circulation at that time, because, as we have seen, from this multitude of petty states and cities and feudal lords there was an immense variety of coins, and these were worn into all possible degrees of abrasion. It was almost impossible for any person, except experts, to tell what the worth of his money was. There was a great need for some means of getting good money. There had been many private banking firms, or money-changers, who had carried on the business of giving good money for bad money. They were expert in assaying, and could tell the amount of alloy in the coins and their weight, and get at their true value, so that the merchants were dependent on these money-changers.

You will easily understand what a tremendous disadvantage the merchants were at with this miscellaneous and uncertain currency, if you think of what happened under our *régime* of wildcat banking, when the paper of a certain bank would not circulate outside a limit of a few miles, except at an enormous discount. There was an outcry against the exchangers because they charged exorbitant rates for the exchanging of coins, until,

in 1609, the city of Amsterdam started a project to do away with this evil, and founded the Bank of Amsterdam. I will not give any details of its organization, but simply get to the fact of what the Bank of Amsterdam did. It received coins from depositors and gave credit for these coins, according to their bullion value, upon its books; it kept the coins on deposit and issued certificates of some sort to the depositors. Then there was a regulation by which all merchants trading in Amsterdam were practically compelled to keep an account in this bank. It was an attempt on the part of the city government to maintain an institution which should do away with the evils of the private money-changers, and which should bring regularity and system and cheapness into the operations of changing money.

A peculiar feature of this as a banking institution was that the money was kept in the bank. I do not mean that the depositors could not withdraw it, but that the bank itself could not use the money. If one man wished to pay another man a debt, they both having accounts there, sufficient coin from the account of the debtor was transferred by the bank to the account of the creditor, the coin remaining in the bank all the time. That could be illustrated by our silver certificates, where the coin remains in the treasury and we use the certificates instead.

While that was a very convenient system, it was also an absolutely safe system, for the reason that the coin for redemption was always on hand. Further than this, the bank credit, or the "bank money," as it was called, was issued at the full coin value, while most of the coins circulating were not full value, so that actually, in comparison with the circulating coin, this bank money was at a premium.

Having traced the origin of modern banking in the Italian cities, and its further development in Holland, the next step in our history brings us to the rivalry between England and Holland in the seventeenth century, with its effects upon the growth of the banking system. In the early part of the seventeenth

century, as you know, England and Holland began to plant colonies in this country. For more than a quarter of a century there was no important dispute. Holland had a very important trade with India, and the Dutch India Company was an enormous monopoly of that time. Holland was really supreme among the European nations in commerce. But England had come to have greater ideas of her own destiny and had begun to push out her influence, and thus forced herself into a great rivalry with Holland extending through the most of that century. There are a great number of pamphlets in the University Library covering that period, in many of which it appears that the one burning question in England was, "How shall we get the best of Holland in this struggle? How shall we put our trade above that of Holland?"

One very well known matter will illustrate this. When Cromwell was in power the Navigation Laws were enacted which we came afterwards to think of as aimed at the English colonies, but which were really aimed at the commercial supremacy of Holland. These laws forbade the carrying trade except in English vessels, and it was that policy, carried out persistently by Cromwell and his successors, which brought about the eventual supremacy of England and dwarfed the importance of Holland. You will remember that about the middle of that century England wrested the Dutch colony of New Netherlands from Holland and rechristened it New York. That was only an example of the victories which England gained in every part of the world over Holland. England from that time has maintained her commercial leadership in the world.

This was a most important century in England in many ways. Besides these colonization schemes and this rivalry with Holland, the century was full of political struggles, of religious struggles, of every agitation which comes to a nation. So far as the coinage is concerned, we have already seen that that was in a disastrous state, that there was a multitude of foreign coins



there of every sort, all worn down so that they could scarcely be used except at great loss by the unwary, and that it was turned to the profit of the money-changers. The state of the coinage was a crying evil which in 1666 was attempted to be alleviated by the introduction of the guinea. But the final reform of the coinage was not accomplished until 1696, after the Bank of England had been established.

Up to this time banking in England, as elsewhere, so far as there was any banking, had been carried on by the Jews and the goldsmiths. A large part of the use of a bank at that time was as a safe deposit for money. Things were so disordered that people did not like to keep their money themselves, and they got into the habit of putting it in charge of the goldsmiths, who had means for keeping it safe. They had at first adopted the practice of putting it into the royal treasury; but Charles I., in 1640, thinking these deposits a good fund to draw from, had taken a large sum for his own uses and refused to pay it back. This debt is said to form a part of the public debt of England to-day.

People would not trust the royal treasury any more after that, and so the goldsmiths took up the safe-deposit business. Thus they had this and every other part of banking, so far as banking was carried on, in their own hands. The origin of the bank-note in England is found in a practice of the goldsmiths. They gave receipts for the money which was deposited with them, and these receipts came to be transferred over from one holder to another, becoming practically a kind of bank-note.

It is important to point out a contrast between this early English banking and the Bank of Amsterdam. The goldsmiths were too shrewd not to see that they could trade with a portion of the money which was deposited with them, because it was not all likely to be called for at once. Thus, by keeping a prudent reserve on hand, they were able to trade with the larger part of these deposits, and still pay the bills when presented.

This is the essential difference between the system of the Bank of Amsterdam and the system of the English goldsmiths. By the Bank of Amsterdam the money was regarded as a deposit and not as a loan, but the goldsmiths' system treated the deposits as a loan. The principle of the goldsmiths was adopted in the Bank of England, established in 1694, and has made it the type of subsequent banks.

What the banking system has accomplished for commerce and industry I do not need to tell this audience. The two principal ideas which I wish to emphasize to-night are these: First, the revival, growth, and extension of commerce depend upon credit, upon that confidence of man in man which is the basis of credit; without that we might have a commerce, but we could not have our vast, complicated system of commerce. The second idea is that this credit is worked out, is organized, is made efficient for the purposes of modern industrial civilization through the banking system. How this is done, of course, those of you who are familiar with banking methods know, but I would advise you all to read what Jevons says upon this subject, which he sums up in the following statement of the progressive development of methods of exchange. "We have as the first step," he says, "the replacement of standard money by representative money." The principles of this change to representative money are outlined in the syllabus at the beginning of this lecture. The second step is the "intervention of book-credit." It seems to me that Mr. Jevons should have added the use of promissory notes to book-credit to render his second step complete. The third step is the "cheque and clearing system," the advantages of which are certainly clear to you, as practical bankers. The fourth step in this development is the "use of foreign bills of exchange," without which, it is evident, extensive foreign commerce would be impossible. The fifth and final step of this grand progress is what one author calls the "international clearing system," which is still a very imperfect thing, in some respects as vague as

what we call international law. In closing, let me recommend another book which I have found valuable, J. H. Walker's "Money, Trade, and Banking." Reference is made to it at the end of this lecture in the syllabus. It is a most suggestive book as showing the part played by money and by banks in the life of commerce, and especially as analyzing and making prominent the influence of credit.

*Questions to the class to answer during the ensuing week :*

1. The origin and features of the Bank of Amsterdam.
  2. The nature and uses of goldsmiths' notes.
  3. The banking system : is it a cause or an effect of commercial prosperity ?
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#### DISCUSSION FOLLOWING LECTURE IV.

MR. SHERWOOD.—Are there any questions on matters connected with last week's papers or lecture before taking up the lecture of this evening ?

A GENTLEMAN.—There is one question as to a statement in the syllabus referring to that lecture which I would like to call your attention to. On page 372 of the syllabus, in reference to the world's supply of gold and silver, the statement is made that "Silver has been largely demonetized since 1870, through fear of excess of money-metal." I would like to ask you whether that statement applies to this country or only to foreign countries.

MR. S.—To both. As to the motive of demonetization in this country there is a difference of opinion. The silver men have always charged upon certain men in the Congress of 1873 that the clause which demonetized the silver dollar was surreptitiously inserted in the law. On the other hand, it is claimed that it was all done fairly and honestly, and only for the reason that

they could not keep the two metals in circulation at the same time, and that the gold standard was the better one to cling to.

FIRST GENTLEMAN.—But setting that aside, I think the reports of the mint show that there has been a larger amount of silver money actually coined in this country since 1878 than in the whole eighty-four years previous.

MR. S.—Yes, undoubtedly; but the law of 1878 was a victory for the other party, for the silver party. That does not tell anything as to what the motives were which induced the passage of the law of 1873.

FIRST GENTLEMAN.—But the statement made here is that silver has been largely demonetized since 1870 through fear of excess of money-metal, while the fact is that silver has been more largely coined in this country than it ever was before.

MR. S.—The fact that I wanted to call your attention to there was the fact that it was demonetized. I might have added that in the United States it was afterwards partially *monetized* again, if I may use that expression. I have not told the whole truth there.

FIRST GENTLEMAN.—Well, in regard to the use of the word demonetized, I wish to question the exactness of it, for this reason: that Senator Sherman has said there was actually more silver coined from 1873 to 1878 than previously, not as dollars but as other coins. Now, if silver is coined as money is it fair to say it has been demonetized?

MR. S.—The usual meaning of that word demonetization would not apply to fractional currency.

FIRST GENTLEMAN.—Only to dollars?

MR. S.—That is the sense in which I have used it and the sense in which I have usually seen it used. It doubtless would bear the other meaning; demonetization, strictly and logically, would mean that silver was not used as money at all; but as I have seen it usually employed it applies only to the standard money.



SECOND GENTLEMAN.—If you please, I would state a fact that has a very strong bearing on this question, I think. Our silver, from the creation of our dollar in 1792 and the coinage of the dollar up to 1804, had commanded a premium all the while of about four or five per cent. over our gold. I can state the fact in connection with this: our gold of 1793 and 1794 was finer considerably than it is now. It was  $916\frac{2}{3}$  fine, and the weight was 270 grains, making the value of the heavy ten-dollar eagle, coined up to 1834, \$10.65, and the minor gold coins, the subdivisions, the half- and quarter-eagle, of course, had correspondingly high values. Well, the gold dollar now is in value the same as it has always been,—that is, of the same weight and fineness. There is a little difference in the weight and in the fineness, but by the readjustment of it the weight was lessened a little and the fineness increased; hence the dollar has kept at the same value, except by the decrease in the value of silver which has taken place since the demonetization of the silver dollar in 1873, which remained so for five years. Now, all the time previously silver, relatively with gold, was commanding a premium in this country, as statistics from year to year conclusively show; but since that act took place silver has fallen, and at the same time we are governed still in this country by the price of silver in London. All along this government is very careful to pay the London price for silver. If our prices are too high, we can certainly buy in that market. This country is not obliged to limit itself to the output of our own mines. Hence that act influenced the value of silver very greatly; so much so, really, that our silver dollar has gone down in value to about eighty-two cents; at our rate of weight and fineness that is about the average value of the silver that is in each  $371\frac{1}{4}$  grains. I would like to hear a discussion of that thing, because it is a very important question. This country, ever since the restoration of the coinage of the silver dollar, February 12, 1878, by which provision was made for it, has been continually coining it immensely. Of

course the law provided for a maximum of four millions a month and a minimum of two millions a month, but the average coinage has been about thirty-one millions annually, or about two and a half millions a month. That has been the policy of the administration. The volume over two millions a month, of course, has been at the discretion of the Secretary of the Treasury.

MR. S.—We had better not take up the discussion of that question now, because it is set down for a later lecture, and would inevitably take up the whole evening. I am very glad, however, that these facts have been presented, and I hope that special attention will be given to the subject.

SECOND GENTLEMAN.—May I speak of one other thing? You spoke of the paper or the leather money of China. There is in the mint a Chinese coin in the shape of a hatchet,—the oldest money of China is in the shape of hatchets or razors or other instruments,—and there is one there said to belong to a period 2354 years before Christ. That, of course, makes it six years older than the period of time since the Deluge, which is 2348. Now, that thing may conflict with the received opinion of the date of our Deluge, or whether it was universal over the face of the globe,—whether it reached as far as China.

MR. S.—There may be something wrong about the date assigned to the coin.

SECOND GENTLEMAN.—A Chinese scholar who has gone over the coins in the mint and reads the inscriptions readily, and is a good English scholar as well, says that that coin was issued in the Emperor Shun's time, and he places the Emperor Shun's time at that period, 2354 before Christ.

MR. S.—There is a good deal of uncertainty both in the Chinese and the Biblical chronology. Are there any questions upon the lecture of this evening?

A LADY.—Professor, in looking at the literature of banking, I find this statement: that banks which issue notes borrow from

the people who hold these notes from time to time, the money loaned being to customers who are in their debt. Will you kindly explain this from an economic stand-point, for it seems very obscure to me?

MR. S.—I think some practical banker could state the *modus operandi* of this business more clearly than I. Does any one volunteer to explain this method?

THIRD GENTLEMAN.—I suppose the savings institutions would be a good illustration of that. They gather in small sums that are of little or no use separately, and place the aggregate in the hands of some one who will pay them for the use of it; they get it into other hands where it can be used in an economic way or for loaning the government, or some other way in large quantities, whereas distributed in many hands it would be of no value whatever, but would be simply hoarded.

LADY.—I beg your pardon. Perhaps I did not say banks of issue. If I understand correctly, the majority of their notes have no specie back of them at all. Therefore, what do they represent?

MR. S.—I do not think we had better take up now the discussion of bank reserves or security of issues. It is provided for in a later lecture.

FOURTH GENTLEMAN.—May I ask, did the notes of the goldsmiths pass from hand to hand? Were they bearer-notes payable to the bearer, or were they endorsed notes?

MR. S.—The practice, as I understand it, differed in regard to that, as it did in regard to Bank of England notes. The Bank of England notes at first passed only by endorsement, and afterwards to bearer; and the goldsmiths' notes were, I believe, at first made payable to a certain person and by him endorsed over to another, and later came to be made payable to bearer, so that any one could use them.

FIFTH GENTLEMAN.—I understand that bearer-checks, in this country especially, if they are in even amounts,—for instance,

one-dollar, five-dollar, ten-dollar checks,—are forbidden. What is the reason for that?

MR. S.—I did not know that such a law existed. If any one familiar with the banking law on that subject is here I would like to have that explained.

FIFTH GENTLEMAN.—They come under the same law that charges ten per cent. taxation on State bank circulation. That is a State law, the Act of 1828, which prohibits any ticket of credit less than twenty-five dollars, and makes a penalty of five dollars for each offence. Under that law the ticket issued by a prominent dry-goods firm, who, when you get an article from them and return it, give you a ticket good for the same amount of any other goods, according to that law that would be a violation.

SIXTH GENTLEMAN.—That law operated against the notes of other States, because other States were sending their small notes into this State very largely. The penalty was rarely imposed by the courts. The prosecutor was considered infamous,—he was tabooed.

FIFTH GENTLEMAN.—May I ask whether such notes would not be current in the street? I would take them as change if I knew the house issuing them to be good.

SIXTH GENTLEMAN.—I cannot say whether the law is in existence yet or not, but it has no force whatever, and I do not believe there has been a prosecution under it during the last forty years.

MR. S.—There are a great many things current in the street that are against the law.

FIFTH GENTLEMAN.—But I make the point that the Act of 1817 made it a monopoly of the government to issue notes payable to bearer. If they circulated in the character of money they would come under the Act of 1817, even though under the name of goods, and they would also be a violation of the Act of 1828.

SEVENTH GENTLEMAN.—During the war and at the close of the



war, in the mining regions, a number of the mining companies issued from their offices small due-bills, "This is worth so much at the company's store," and there were two or three suits brought under that law, in which certain legal gentlemen of a low grade in the profession offered to divide with the miners if they would gather up a lot of these due-bills and enter suit on them, but I do not think anything ever came of it.

MR. S.—I would call your attention to chapter xvii. in Jevons, where he discusses the difference between a receipt for specific goods deposited and a general receipt, and then goes on to a promissory note and to other forms, and then on to a bank-note and to credit-money. It shows an evolution of the idea that is quite interesting.

FIFTH GENTLEMAN.—Why is a note of that character prohibited? If it is not good people will not take it, and why should the government monopolize the issue of notes payable to bearer? According to that law you can promise to pay to John Smith, but not to bearer.

MR. S.—So far as my study goes, the object of prohibiting notes payable to bearer, on the part of governments, is the idea back of all government regulation of money and of what is used as money, that the government is the proper power to regulate it. It has come to be a policy of governments generally to regulate everything which is used as money, and I should say that the case mentioned was a particular application of that policy. About the specific law referred to I know nothing.

FIFTH GENTLEMAN.—I do not know whether these questions are proper, but I should like to ask, Why were the State banks subjected to a ten-per-cent. tax on their circulation to protect the government notes? Why should the government issue of notes not have an opportunity of competing with the others and running them out of circulation if the former were the better notes? You might as well say that the banks did not exist as banks of issue, and they did not, practically.

MR. S.—That brings us to the wildcat currency and the State bank currencies before the war. It would more properly come up under the subject of American currency.

FIRST LADY.—In your remarks this evening I drew the conclusion that our credit system was largely due to man's confidence in his fellow-man. Is it not rather due to a lack of the thing called money, and that he simply has no other resource?

MR. S.—I do not think so, for this reason: a man often gives a note or takes a note when he could pay the money just as well as not, if he wanted to. There is no doubt that credit does, on the whole, supplement the money supply. It enables us, with a much smaller supply of money, to do a larger business. There is no doubt of that, but I see nothing inconsistent in that with the idea of confidence in man.

FIRST LADY.—Well, but how can you apply that to our large speculations, and panics, and corners?

MR. S.—There will be a fine opportunity to discuss panics in the last lecture.

EIGHTH GENTLEMAN.—I would like to ask how the Bank of Amsterdam was supported if the depositors received full credit for the full amount of their bullion and if the bank could not use that bullion for its own purposes.

MR. S.—I neglected to state that one reason for the establishment of this bank was that the charges of the money-changers were considered exorbitant, and the bank was allowed to charge a certain amount for exchanges. It was a very small percentage,—one-fortieth of one per cent., I believe,—and was regulated by law.

EIGHTH GENTLEMAN.—Was the amount credited only the actual value of the coin or its face value?

MR. S.—The amount credited was only the actual bullion value, and then you see that the bank-money, as it was called, came to be worth more than the current coin, because most of the current coin was worn down and lower in value than its face.

## LECTURE V.

### THE PLACE OF BANKS IN THE MONEY SYSTEM, AS SHOWN IN THE HISTORY OF THE BANK OF ENGLAND.

LADIES AND GENTLEMEN,—The subject this evening is the Bank of England; for its importance in the history of banking, and for the place which it holds to-day, the greatest banking institution in the world. It was founded in 1694.

We cannot properly understand the founding of the Bank of England without a review of some of the political issues of that century. It was a century more important, perhaps, than any other century in English history for the development of political ideas and for progress in constitutional government.

In the beginning of the century the Tudor dynasty was succeeded by the Stuart. All through the century, under James I., Charles I., Charles II., and James II., a fierce contest was going on between the spirit of absolutism in government, the spirit of the divine right of kings, and the rising spirit of individual liberty. It is a very complicated history and we can only touch upon it, but I ask you to remember that the struggles of the century and the final victory for constitutional government which was accomplished in the Revolution of 1688 were really the foundation of the present English political system.

Looking across the Channel to France during the latter part of that century, we find Louis XIV. carrying this idea of absolutism to a more complete realization than has ever been attained elsewhere in modern times. Louis XIV. not only was a despot in the government of France, but he was like Napoleon, later, aggressive against the other nations of Europe. He laid claim to the Spanish crown, and became involved by that means in

a war with Holland in 1672. In this war he was opposed by William of Orange, who was made practically a dictator by the threatened Lowland Countries. The war, unsuccessful for Louis, created an enmity between William and Louis; and when, some ten years after the close of the war, William came over to England and displaced the Stuart king, the same enmity survived, and William became involved in a war with France.

The cause which led to this war was not merely the personal enmity between William of Orange, or William III. of England, and Louis XIV., but it was also the natural kinship of ideas between Louis XIV., the spirit of absolutism incarnate, and the disaffected Tory party in England, who adhered to the Stuart dynasty. For, you remember, James II., on resigning the English throne, fled to France, so that France became the protector and the supporter of this dying idea in English politics.

William III., on taking the crown of England, was obliged, and it may very likely have accorded with his own ideas, to yield certain rights to the English people,—rights which a great many people in England had always claimed. These rights were embodied in a document called the Bill of Rights, which stands to-day as one of the great landmarks in English constitutional history. You will pardon a short digression into the field of political history suggested by the English Revolution. It will show the trend of recent political development; it will illustrate that conflict of principle between individualism and state power, which is as important in the history of banking as of any other modern social institution.

If you were to study not merely the political issues of that century, but likewise its political literature, you would find that really the English Revolution of 1688 was very largely the prototype, the precursor, of the American Revolution a century later. The recent progress of civilization is a progression of revolutions. First comes, in the Renaissance, an intellectual revolution, a breaking away from the old domination of the mind by



the authority of the Church. That ripened into a religious revolution which we call the Reformation,—the spirit of individualism against the spirit of absolutism in religion. And in 1648, at the close of the Thirty Years' War, which was the last great religious struggle in Europe, the conflict passed over from the religious field to the political field, so that from that time there was an era of political revolutions in which the English led the way.

In the Revolution of 1688 there are found the germs of our own Revolution of 1776. The defender of the Revolution of 1688, John Locke, in his "Treatise on Government," anticipates to a surprising degree not merely the ideas, but the language of the Declaration of Independence and of the political writings of the last century in this country, which we are apt to consider original with us. Further than that, John Locke was studied in France more than any other writer, except some of the ancient classic writers, by Rousseau and other French writers who followed Rousseau,—those writers who, as an aggregate, brought on that revolution of ideas which took such disastrous form in the French Revolution of 1789.

The political revolution of England became, then, the starting-point for the political revolution in America, for the political revolution in France, and for the further political revolution in England which, in this century, has made England really a democratic country. To take one step further, it may be said that the next revolution was an industrial revolution, and in that industrial revolution has come an era of individual freedom of contract.

The whole progress of these revolutions has been along the line of individualism: first, individualism in intellect; then individualism of religious belief; then individualism in the state, in politics; and, finally, an industrial individualism. Whither the next revolution shall tend it remains for the future to determine. Whether we have carried the spirit of individualism to its last extreme, whether we shall have to modify this principle, as we

see it already modifying in so many ways, is a question for us to-day and for those who follow us to settle.

But let us go back to William III. A large party in England was disaffected to him,—a party which believed in the divine right of kings, believed in the Stuart dynasty, believed that England was all right as she was, and that she would go to certain ruin along these lines of change. Consequently the position of William was a very difficult one. He was a foreigner, and, in spite of the fact that his wife was the daughter of the old king, he needed very skilful diplomacy and very good statesmanship to maintain his hold upon the people. He was in need, among other things, of money to carry on his war with France.

There are several instances in history where a government has obtained money for a war by the same scheme which William III. tried,—the establishment of a government bank. The German policy is to provide for a war of this sort beforehand by laying up a large treasure. It is a primitive policy, but it is a very effective policy at times, as it was in the Franco-Prussian war. But after the method of raising money by taxation came into general use (about the middle of the century of which we are speaking) it was a serious question with governments how to get the money in time to carry on the war. Taxation is slow; it requires at least a year before substantial results can be obtained, and then they probably prove inadequate. The usual solution of the problem in such a case is a government loan.

William and his advisers conceived the idea of granting a banking privilege to a corporation which should advance money to the government. Charles II. and Cromwell had been in the habit of borrowing from the goldsmiths and private bankers, and their method of borrowing was to pledge the revenue from a certain tax as security for the loan. It was known that there was a great opposition to the scheme of a bank. The opposition was, in the first place, on the part of the private bankers, who

naturally disapproved a monopoly or any institution having the government behind it, because it would make uneven competition with them. The Tories likewise opposed the bank as tending to strengthen the government. There was also a hot contest waged by a number of other rival projectors, for the air was full of great schemes at that time. It was a time of colonization, of vast extension of commerce, and naturally, as in every such period of expansion, there were a great many projects afloat by which people were to be made rich and the country to be made prosperous. Banking attracted many of these commercial speculators, and there were schemes of many different kinds for a bank.

One of these schemes dates back as far as the time of Cromwell: a proposition made by a London merchant named Lamb for a bank, but it fell through in the confusion occasioned by the death of Cromwell. There were several other schemes, modelled largely after the Bank of Amsterdam, for London at that time imitated Amsterdam in her commercial methods. One scheme in particular was proposed which stands as the great rival idea to the banking scheme which was actually adopted by England,—Chamberlain's Land Bank. I had intended to bring down a book from the library this evening, but forgot it,—a pamphlet of the date of 1666,—which sets out a plan for such a bank. The proposition, in brief, was this: "If the goldsmiths can issue notes based upon gold, if the Bank of Amsterdam can issue notes based upon gold, and these notes are as good as money, and gold is simply a commodity having value, and the commercial world is full of other commodities having value, and England is made of land having value, why can we not issue notes upon the value of land, or notes upon the value of other commodities than gold and silver? Why is it necessary to base our circulation of money upon gold and silver?" That was the idea which lay at the base of these schemes; and Chamberlain's Land Bank proposed to issue notes upon the value of land. It is argued at great length, very plausibly and very skilfully. The

land bank was finally given up, although at one time it came very near success.

Chamberlain carried his ideas so far as to propose the issue of paper not only upon the present value, but upon the anticipated value of the land for a hundred years to come. Now, it is well known that twenty or twenty-five years' purchase exhausts the value of land,—that is, we consider that twenty or twenty-five times the yearly rent of land equals the whole value of the land. Chamberlain would have coined into money not merely the whole value of land, but four or five times the value of it. Well, it may be said that logically this was not absurd, because a paper currency, a bank-note currency, may be safely issued four or five times in amount beyond the reserve of gold and silver, and that this was essentially the same thing. But, as we shall see, there is an essential difference in this respect, that for commercial purposes you must have a value that can be used immediately, and you cannot anticipate the value of land for a hundred years to come so as to use it immediately. We cannot, however, go into that discussion now. The fact shows that there were rival ideas at that time. There were a great many schemes seeking a government monopoly or government aid, and the scheme which prevailed was the Bank of England.

The working out of the plan is generally attributed to a Scotchman by the name of William Patterson. It is said that he had been in this country, and that he had got some ideas on banking from the early Massachusetts men; but wherever the ideas came from, they were successful.

Answering to the need on the part of the government for a loan, there was a commercial need in the country for some better banking system. The political party of William, on the one hand, was shrewd enough to seize this commercial opportunity; and on the other hand, the merchants and other men who wished to extend their trade and to get a better means of managing the money market, were eager to seize this political opportunity.



The plan was a timely one for both the political and the commercial parties.

Such was the opposition to the proposed bank that its charter, instead of being openly floated through Parliament, was covered up to some extent in another form. A bill was introduced laying certain taxes,—a tonnage upon vessels and some excise taxes. The bill stated that a loan was wanted by the government, and that to the subscribers to this loan would be granted a corporate charter allowing them to carry on business in bullion and bills and to transact other banking business. It was known as the Tonnage Act, and the bank was always spoken of by its opponents as the Tonnage Bank.

Looking ahead a hundred years to the position of our own government after the adoption of the Constitution, we find a problem very much the same,—the problem of making the government stable and firm with the people. The States were against the federal idea, and the scheme which was suggested by Hamilton, and which was adopted in our United States Bank and other centralizing institutions of the time, was substantially a scheme of this sort, an institution which should link to the fortunes of the government the financial power of the country. That idea was behind the Bank of England. It is a very important idea in such a crisis. You can see how, in our own country, that idea and one or two others of the same sort which were carried out by Hamilton were really the efficient force in making the Federal Constitution a success, and in carrying it forward against all the opposition of the States.

The reason is a plain one. A government is stable so long as the financial managers of the country are allied with the government, for, to a great extent under modern industrial organization, the moneyed men and the financial leaders practically control the people. Of course that idea can be carried too far, but in such crises it has been proved by more than one government that the way to control the people is to secure the sup-

port of the men financially powerful. In our own Civil War the same question came up, and the solution was practically the same. The idea of winning to the government the undivided strength of the North in its fight against the South was one of the main motives in establishing the National Bank system. And another motive in that system, as in the Bank of England, was the floating of a war debt.

History thus repeats itself, politically and otherwise. Under the same combination of circumstances the same solution is often reached. We shall better understand the situation two centuries ago in England when we see that here under other skies and with other people we have worked out the same problem in substantially the same way.

There was another idea involved in this Tonnage Act which we should remember. As we have seen, the custom at that time for a government in borrowing was not to pledge the general credit of the government, nor to issue bonds, but to give the receipts from a specific tax as a pledge for the repayment of the loan. The idea of the Tonnage Act was to pledge the tonnage dues for the repayment of the loan.

The amount that the king needed was one million two hundred thousand pounds, a far larger amount in that day, of course, than it would be now. This loan to the government constituted the capital of the bank, and the subscribers were granted banking privileges.

What might have been predicted in regard to the course of the bank was fulfilled. The bank and the government stood side by side; they aided one another through the war, and the bank became a great financial institution with which the government was always more or less connected. The founding of the Bank of England was the end of purely private banking in England.

The government was to pay eight per cent. on this loan. That constituted a part of the bank's profits. The bank, as at

first constituted, was allowed to receive merchandise as a sort of pawnbroking establishment on a large scale. The history of banking a little farther back than we have gone shows that in more than one country the banking business has grown out of the pawnbroker's business. It was so in Babylon, for instance, where pawnbroking was carried on to a great extent and was worked up into a system of banking.

The Tories were very largely the landed class in England and despised the commercial class, who were for the most part Whigs. But the commercial class were the moneyed class, and William gaining their support, and the progress of England, as of other countries, now being along commercial lines, it was, on the whole, a combination for progress rather than for conservatism. It was away from the old importance of landed property to the new importance of commerce. And thus constitutional government on the one hand and the commercial progress of England on the other became linked together, standing and fighting out a common fight to the victory which we see in this century.

What follows for a century is not important for us to take up to-night. The bank went on its way; its methods were somewhat primitive; it did a banking business consisting at first in issuing notes and in discounting, and later the system of deposit and checks grew up. The Bank of England illustrates the origin and development of all the modern practices of banking. At the beginning the note-issue was the important thing. Part of the advances which they made to the government were on their notes. The notes as at first issued were not payable to bearer, but were a few years afterwards made so. The bank was practically gaining a monopoly of note-issue in this way. Private bankers were not forbidden to issue notes, but all companies of more than six men—in other words, all joint-stock banks—were prohibited from issuing notes; so that down to 1825 or 1826 the only people who could compete with the Bank

of England in issuing notes in England were individual bankers, or partnership banks of no more than five people, and these were very soon really driven out of the field by the Bank of England. Thus the Bank of England had a practical monopoly of note-issue down to 1826. In that year the monopoly of note-issue in the Bank of England was restricted to London and a radius of sixty-five miles about London, and joint-stock banks then sprang up.

Mr. Gilbart, who wrote the book to which I have referred you, was one of the most prominent men in bringing up and developing joint-stock banks in England. There began from this time a period of note-issue which is paralleled during the same time in this country. These joint-stock banks and the country banks and private banks throughout the country, all prohibition of note-issue being taken from them, began to compete in the issue of notes.

During that same period the development of free banking in this country was rapid likewise, and paralleled the condition of things in England. Notes were issued of so many kinds and in such numbers that they would not circulate far from where they were issued, except at a discount. Finally, in 1844, about the time when our government, after trying several other schemes for managing government funds, adopted the sub-treasury system, the English government passed the Bank Charter Act of 1844, which made a very radical change in the system of note-issue in England. The chief effect of that act was that it separated completely the issue department of the Bank of England from the banking department, making, in reality, two separate institutions. The banking department of the Bank of England is mainly a private bank (nominally it is entirely so), and the influence of the government upon it is one of opinion and of custom rather than of law. But the issue department, in the whole method of its action, is a semi-government bank. Although English people would gen-



erally say that it was a strictly private bank, yet no one can see the way in which it acts without seeing that it is so closely connected with the government as to take on the character of a government institution.

The principle underlying this act was that there ought to be better security for the issue of bank-notes and some limitation upon the number. The law provided that so far as notes issued for actual bullion or specie deposited were concerned, there was no limit: the bank could go on issuing notes as long as it pleased for actual coin deposited; but if it issued notes as loans upon securities a limit was placed by this act at fourteen million pounds. The consequence of this, you will see, was to make a virtual limit to the issue of notes, and this idea was further carried out by the provision that no other bank in London should issue notes, and that no bank created after that act should issue notes, and that those country banks which issued notes at that time should henceforth issue no more than their ordinary previous circulation. The policy was that the Bank of England should eventually monopolize the note-issue in England, because as these other banks would drop out one by one and no new bank created could issue notes, it was supposed that before very long the Bank of England would absorb all note-issues.

The action of the Bank of England under this act belongs more properly in the lecture upon Panics, because the most interesting feature of this bank is its practice in connection with a stringency in the money-market; but it would be well to bring out here the steps by which the English government has obtained its control over the note-issues.

The first stage is that of private issues of notes on deposits,—no state regulation at all,—for before the Bank of England the goldsmiths issued notes upon deposits. Next comes the period of the first century of the Bank of England, where there is a monopoly of note-issue attempted in an institution chartered by the government, which institution gradually gains the practi-

cal monopoly. The third step comes in 1797, when there was a danger of invasion by the French and when the gold was rapidly leaving England. The government thought that it was time to stop the drain of gold, because it needed it in the prosecution of the war; so it actually ordered the bank to stop the payment of specie for notes. This was in 1797, and from that time for twenty years and more the Bank of England suspended specie payments under direct government order,—the so-called “Restriction.” Here, you see, was a very direct interference by government in the regulation of this bank. It placed its hand upon the bank in a way which it had not done before, and Mr. Bagehot argues very strongly that this was a disastrous thing for the Bank of England, because thereafter people in general and the bank directors in particular had the idea that no matter what happened the government would stand by the bank. He piles up his arguments in a very striking way in one of the chapters of his book. As he said, the idea is common among the people generally, with regard to the bank failing, that you might as well talk of winding up the English nation as the Bank of England. While they regard the bank as having the whole force of the government behind it, the safety of the bank depends in reality upon a few directors,—twenty-four altogether,—of whom, as Mr. Bagehot says, a large number are not bankers, but are merchants or men who do not know the inside of banking, and who, having liability only as far as the amount of stock which they hold in the bank, naturally do not hold themselves to the same strictness that they would if they were liable to the whole extent of their fortunes.

Whether this wide-spread idea that the bank cannot fail is well founded or not, the bank has certainly, so far, carried itself through all difficulties. Yet since the Act of 1844 it has several times been necessary for the bank to ask leave of the government to suspend that provision which limits the amount of notes which can be issued for securities.

This Act of 1844 is the fourth step in the progress of government regulation, and it has placed the hand of the government much more strongly upon the issue department of the bank than it had ever been before. As it stands to-day, however it may be in theory, as a matter of fact the Bank of England is vitally connected with the English government. It largely exercises the functions, while it avoids the name, of a government bank.

The history of banking in America likewise shows how the same course of action, practically, has gone on here: a development from a strictly private banking, in which government does not interfere at all, to a condition where the government practically regulates and controls the issues. There is a tendency in recent banking, both in England and America, which marks a progress from banking as it was when the Bank of England and other early banks were started. The principal feature of early banking, so far as the profits are concerned, is note-issues. In some of the acts relating to the Bank of England the bank was spoken of as though note-issue were the whole of banking. These acts grant to the Bank of England the exclusive privilege of banking, and then go on to qualify that in such a way as to make it plain that the idea which banking conveyed at that time was simply note-issue.

The system of checks upon deposits, as we understand it, was very little used at that time. There has been a most marvellous growth of that system in these later years, and in England and America, where the deposit and check system has reached its highest development, there has been a corresponding dwindling of note-issues.

Again I quote an argument from Mr. Bagehot,—and there are many others who hold with him,—that with progress in banking note-issue comes to be an obsolete part of banking, giving place to the check system, which, in another way, does the same business that was done by the old local issues. The old local issues would not circulate, except at an enormous discount, beyond a

few miles from the bank, and our checks on deposits practically do that same work. This is a point which will bear much emphasis.

I have brought out the chief points which I wished to bring out in connection with the Bank of England, and they are stated briefly in the syllabus, on pages 377, 378. I emphasized one fact the other evening, that the Bank of England was the first great bank which treated deposits as loans, so that it traded with the deposits beyond a safe reserve. That had been done before by private banks, but this was the first great institution which really worked out that system, and it was likewise the first great institution that issued its notes upon the general credit of the bank instead of upon the specific deposit of coin or specie. Then, if we look farther, we shall see in the history of English banking a development which has occurred in more than one country as regards note-issues,—the development from free issues of notes up to a system of government regulation. The steps are different in different countries, but the progress is generally the same, and the result is that finally the government comes to regulate the note-issues.

One other thing in regard to English currency it would be well to notice,—viz., that they have at present no notes less than five-pound notes, so that the English currency is one of hard coin for all ordinary retail transactions of trade. They distrust paper money. In our country it is altogether different. We prefer paper. The silver dollar cannot be floated in this country as a coin, and I suppose a large number of people in the United States would rather have a paper half-dollar than the silver one. This fact is a good illustration of the power of national sentiment and varying customs in matters of money. There is a project in agitation now in England, however, to issue one-pound notes, but its fate is as yet uncertain. The reason of this proposed change in English policy is a desire to increase the banking reserve of gold by taking the gold out of circulation and



getting it into the banks, because the drain upon the English bank reserves is apt to be great and dangerous in sudden emergencies. There are other points which we might profitably consider, but the time has come to close the lecture, and we must take up the discussion in a few minutes.

*Questions to the class to answer during the ensuing week :*

1. Give the political reasons for founding the Bank of England.
  2. Is it a good thing, industrially, to have the banks connected with the government?
  3. State and criticise the principal changes wrought in English banking by the Act of 1844.
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#### DISCUSSION FOLLOWING LECTURE V.

MR. SHERWOOD.—I was especially pleased with the answers given to the third question last week, as to whether banks were a cause or an effect of commercial prosperity. The unanimous answer was that they were both a cause and an effect; and that was really the point which I wanted to bring out by asking that question; that in all such problems the phenomena that we see are both causes and effects; they go side by side, acting and reacting upon each other. In so many cases where we attribute to one thing the quality of being the cause of another thing, it is often a mistake, unless we look at the other side of it and see how it is also an effect, how the two things work along side by side. This is a very notable instance of that principle. In the first place, a revival of commerce, which shows the need of a bank; then, when the banks are provided, through their agency the commercial expansion is far more rapid and greater.

Are there any further questions upon that point or upon last week's exercises?

A LADY.—In the syllabus you speak of “superabundant currency.” Will you please give us a criterion, that we may determine when the currency is redundant?

MR. S.—Say that we have a depreciated paper currency and a gold currency, for the sake of simplicity leaving silver out of the question. Now, if the paper is depreciated, and if the gold leaves the country rapidly and continuously and does not come back, I should say that was a very good sign of a superabundant currency of some sort.

LADY.—If the gold leaves the country, does it not do so because our importation is larger than our exportation? If there is an efflux of gold, isn't that because our importations are larger than our exportations?

MR. S.—Would you say that that was always the cause?

LADY.—I should think that that was the only natural cause; that we have imported more of consumable commodities than we have exported of consumable commodities, and therefore we have to pay the difference in gold. And if our importations are greater than our exportations, is it not rather an evidence that production is not up to the mark? for production is certainly never lacking for two factors, natural objects and labor; it must, then, be lacking in opportunities. If opportunities are restricted, our capital is restricted, and, instead of a redundant currency, it seems to me that it is an evidence that we are lacking in currency.

MR. S.—Well, what would you do with the money that is sent out of this country to Ireland to aid the Home Rule agitation, for instance, or with the money which is sent out of one country to another as payment of interest on bonds held in the latter country? Can you explain that by mere importation and exportation of commodities?

LADY.—Well, I suppose that is a commercial condition which I am not prepared to explain. But suppose that a community is perfectly isolated (and such a thing is conceivable) and has

no foreign exchanges, then what would determine a redundant currency? It could not be the state of exchange.

MR. S.—In such a case as that it would depend largely on what the currency was made of. If you had a silver currency, for instance, you can easily conceive that it might be too bulky for use in a certain state of trade. If you had simply a gold currency, on the other hand, it might be too small for use,—I mean that the particle which would be set off against the usual amounts of other commodities would be too small for use. The argument is made sometimes that a single ounce of gold is enough to conduct the exchanges of the world, it being necessary simply that each unit of weight have a sufficiently appreciated value. This argument illustrates by its absurdity my point that the convenience of a coin as to amount of metal in it is an essential factor, and that it is perfectly conceivable that there might be too much or too little of the commodity which was used as money for convenience in use. This might be the case even in a single community shut off from foreign commerce.

FIRST GENTLEMAN.—Isn't the idea that we have too much money in a community equivalent to a fear that we make too many exchanges?

MR. S.—I do not see the connection there.

FIRST GENTLEMAN.—Money is for the purpose of facilitating exchanges. Now, how is it possible to have too much money? Is it because we make too many exchanges that we have too much money? Are not the amount of exchanges determined by the desire of the producers to exchange mutually their products?—that is, provided there are no obstructions to exchange? If we have too redundant a medium of exchange, doesn't the simple effect follow that each coin will not be used so often? Again, we hear it said that whenever there is depreciated currency in use that is a sign of a redundant currency. We have too much money, it is said. Isn't that rather due to the criminal ignorance

of those who make the laws under which these notes are issued? If notes are really promissory notes, promising so much gold or so much silver, and if each note is secured by an adequate security, how is it possible that that note can depreciate? Isn't depreciation simply a sign that the promise which should accompany the note, if it is a promissory note, is merely implied, that it is not definitely given, and that there is a disposition on the part of the government to repudiate it? Or, on the other hand, if it is not that, is not it a proof that the wealth which is behind the notes, which is really attachable by the note-holders, is insufficient? It seems to me that only one of those two conditions can account for depreciated currency.

MR. S.—Railroads and other roads facilitate exchanges. Now, you may ask, is it possible to have too many railroads, or is it possible to have too many other roads? But where is the economy of having more of a thing in use than you need to effect that use? It is a waste of resources to have more of any article than is necessary to effect the purposes desired.

FIRST GENTLEMAN.—If we make too many railroads, the railroads are in the form of a certain kind of wealth and are subject to natural depreciation. Money is actually existing wealth temporarily set aside for the purpose of facilitating exchanges; it can immediately be brought back to what is called present wealth, in the terminology of the modern economists; it can be immediately used for present wealth, and thereby can be withdrawn from the circulation and made a simple commodity.

MR. S.—Well, I think that the history of paper-money issues goes to show that it is a very easy thing to get paper money which suffers natural depreciation. For instance, take the issues of our Continental Congress in the period from 1775 to 1789. The notes were issued, and in a very few years they depreciated so that in some cases a thousand of the dollar notes were not worth one good dollar.

SECOND GENTLEMAN.—Do mortgages ever depreciate?



MR. S.—Yes. I have had a very acute personal experience in that line; I suffer from it yet.

SECOND GENTLEMAN.—I mean mortgages issued under proper restrictions. Do mortgages taken by trust companies ever depreciate?

MR. S.—Well, I cannot say as to the trust companies. That is a phase of banking which I have not studied.

THIRD GENTLEMAN.—The mortgage depreciates if the property on which it is placed depreciates, and if the man is not worth his bond above that.

MR. S.—It is a question of the particular security altogether.

FOURTH GENTLEMAN.—Professor, you spoke of the bank-check system which has so largely taken the place of the issue of notes in transactions. Does any one ever complain of the redundancy of bank-checks under the present system?

MR. S.—Yes. I saw a letter written by a prominent Philadelphian not long ago in which he took just that ground, that the banking business in general, the system of deposits and checks and the system of notes, and the whole banking business in general, was a very disastrous expansion of the currency, and that exchange might much better be done by greenbacks.

FOURTH GENTLEMAN.—Do you agree with that at all?

MR. S.—In my opinion, all this banking business, the whole credit system, takes the place of money to a large extent. It does what, if it were not for that system, we must have money to do. That fact is clearly shown by the condition of things in France, where banking is not generally developed, and where the people keep their money by them; the per capita amount of money is very much larger than it is in England or America. The issue has been made more than once—and it is really a very vital issue in our country to-day—whether it is better to have a system like the banks, which deals with the individual and in the locality, and for the moment merely of each transaction, or a system like the United States greenbacks, which makes

a permanent and fixed amount of circulation for the whole country.

FOURTH GENTLEMAN.—But is there any question that it would be a step backward to wipe out the check system?

MR. S.—I do not see any satisfactory substitute for the check system in our modern conditions.

FIFTH GENTLEMAN.—Speaking of redundancy in checks, no man writes more checks than he needs; that is, so far as the issue is left to individuals, there is no fear of redundancy.

MR. S.—I should not say that.

FIFTH GENTLEMAN.—Doesn't a man write a check payable in coin?

MR. S.—It is not cashed in coin always.

FIFTH GENTLEMAN.—Well, it is for him to say whether he will take coin or a bank-note.

MR. S.—The banks do not have the coin and could not get it, if it was all demanded at once, to pay their deposits. But we might, for instance, have between man and man in every city a system of actual barter. Every time we wanted to exchange anything we might go out into the street and find a man who had what we wanted, and make the exchange with him, and no money at all would be used. Instead of that we do it by a system which is just as local, which comes down to the individual just the same as barter does, practically; we do it by the bank and check system. The latter system is organized, and there is economy in that organization. Another advantage is that if you want to make an exchange, you draw your check and the transaction is finished in ten minutes. That, it seems, is the great advantage, the true economy, in the check and deposit system over a currency which sticks in the country after its work is done and you cannot tell what it will do afterwards. Professor Sumner says in regard to that, that the Americans have made a great discovery in currency, and that is, the paper-money idea, which, like the *genii* in the "Arabian Nights," you

can call up, but how it is going to act when you once get it up is a serious question.

SECOND GENTLEMAN.—Does any one ever object to taking a mortgage because there are too many mortgages out? Does the number of mortgages in existence affect the value of present mortgages with good security?

MR. S.—Suppose that every farm and every house is mortgaged, and suppose you want to issue more——

SECOND GENTLEMAN.—I said under good security.

MR. S.—But one does not know when the security is good. Take our Western farm mortgages in the present day, many of which have depreciated disastrously.

SIXTH GENTLEMAN.—Could the commercial transactions be carried on with the actual money in the country, apart from the check system?

MR. S.—It would be a very difficult thing to do. But, of course, my opinion is guesswork. It could not be done if the check system were abolished suddenly. That would prostrate industry in the whole country.

SIXTH GENTLEMAN.—I do not mean to abolish the banks, but could you effect the exchanges with actual money? Take the clearings of the New York banks,—a thousand millions a week,—could that possibly be done in actual money?

MR. S.—A practical banker could answer that better than I. The question is, whether it would not be done in some other way. Edward Atkinson argues that the cost of transportation on a ton of freight from Chicago to New York has been reduced by railroads from some outlandishly high figure down to almost nothing, and he multiplies the difference by the number of tons of goods that are moved between Chicago and New York, and says that this is the advantage which railroads give us. Well, his figures may be all right, but it is a most stupendous good to attribute to the railroad system. How did we get along before we had the railroads? We did not move the goods. But

the people who lived in Chicago got what they wanted, and the people who lived here got what they wanted. The thing was done in a more local way. So with our banking. There could not be the same expansive business that we have now, nor as large a population in the country, but the trade necessary would be carried on in some way.

SEVENTH GENTLEMAN.—Then, will not the statement made in your first lecture hold, that the wider the market the greater the civilization?

MR. S.—Yes, I spoke of industrial civilization merely, it is true, but I should say also the greater the industrial civilization the greater civilization in all its aspects.

FIRST GENTLEMAN.—I am in business. I have an offer from a large dealer to buy some of my products, provided I take pay in trade instead of money. I believe that that is the experience of most business-men, and that I am not an exception in that respect. Now, is that not a proof in itself that that particular difficulty of barter or exchange which money is intended to overcome is to-day not overcome by the money which we have? In your first lecture you said something in these words: "Imagine Philadelphia or New York suddenly stripped of all its money," etc. Are not our business depressions simply effects of that same kind? Is not the very fact that I just mentioned, that I could have done business had I taken pay in trade, simply an effect of that same condition that we would have in Philadelphia if all money were suddenly taken away? We would have to fall back on trade exclusively, and we could sell only if we took pay in trade. Does not that show that we have not enough money to-day?

MR. S.—I should not say so. Salt is very necessary for nearly all the food we eat, but because our food would not be nearly so serviceable to us without salt, it cannot be argued that the more salt we have in our food the better our food is.

FIRST GENTLEMAN.—But if we found the same phenomena



occurring that we know will occur if there is too little salt in the food, then we would certainly have reason to believe that we had not enough of salt in it.

MR. S.—I grant you that.

FIRST LADY.—Are we not considering money to-night in its natural function as a commodity? Now, our political economists, when they speak of economic money, define it to be a thing of no value in itself, but wholly and solely a representative of commodities seeking exchange, and then proceed most illogically to treat of it as a commodity. But when we are talking about money we mean economic money; at least, not money which depends entirely for its entity upon the commodities that it represents. Therefore, how could we have too much money unless we had more than enough to effect exchanges? And if we have not enough to effect exchanges, and have to resort to barter, therefore we have not enough money, since we have not enough of the thing that will effect the exchange of commodities seeking exchange.

MR. S.—But suppose we have an instrument that goes away beyond money as an improvement over barter; suppose we have another mechanism more intricate in its operations than money and which performs the work with an economy not possible by the use of money. Do we want to stop progress? Don't we want this other instrument which will do the money work better than the money itself does it?

FIRST LADY.—To the extent that it does do the money-work better, we want it; to the extent that it is intricate and does not do the money work better, we do not want it.

MR. S.—Every great progress in history, every important mechanical development which we have, is a growth in intricacy, in finer adjustment. To call an instrument of commerce intricate does not condemn it, so long as it does the work more economically than money itself would. That is a question which is vital in our country to-day,—whether we have reached the farthest

development which it is possible for us to reach in effecting this economy of exchange. There is one school who say that money is a tried instrument which has proved of the greatest value in this work; therefore let us stick to money and get enough of it to do the work. Another class say that we have worked from the money era to an era which demands something more highly organized, more in accordance with the organization of society. And now, if our credit system is that thing, if it is an advance, as it seems to me most people who really look into the work of the system say that it is, why, it seems to me the line of progress is in that system rather than in going back to the system of plain, simple transactions in money, which is a double barter, after all.

FIRST LADY.—Is it not entirely due to the use of the credit system under our present industrial conditions that we have commercial gambling?

MR. S.—Is there not also what you call gambling in produce exchanges?

FIRST LADY.—I call it gambling wherever the transaction is such that it is not based upon two sets of commodities seeking exchanges, but where there is one set of commodities being exchanged for money through the system of credit. Of course if we had a system of credit universally used which would dispense with money, that would be very different, I think.

MR. S.—It is not necessary to have money to carry on either low- or high-class gambling. I do not see that the credit system furthers gambling in the community more than it furthers a hundred good processes in the community, and because an evil use is made of a thing of which a hundred good uses are made, that certainly does not condemn the thing. What our condemnation should fall on is the evil use which is made of the thing.

SECOND GENTLEMAN.—Suppose that every one who had well-secured mortgages could deposit them as the national banks do with government bonds. Are not good mortgages the most solid security possible, and if they were deposited in the same

way, why should they not be made the basis for a good, sound currency? All the money of the trust companies is invested in them.

MR. S.—Well, trust companies are not infallible, and every one knows that there is just as much fluctuation liable in the value of land as in anything else, and perhaps we have more acute and violent fluctuations in the value of land, certainly in city values, than in anything else. They may not occur so quickly, but they are often more disastrous than other changes.

SECOND GENTLEMAN.—A mortgage always has plenty of margin if it is a good mortgage.

EIGHTH GENTLEMAN.—Wasn't the Baring failure due to fluctuations in the value of land mortgages?

MR. S.—I cannot say.

EIGHTH GENTLEMAN.—I was reading an article some time ago which said that that was the cause of it; the land was used as security, and in a very short time it rose and you got a bigger mortgage, and so on until it was mortgaged clear out of sight, and the collapse was the cause of the Baring downfall.

MR. S.—There is one thing about a mortgage that is worse than anything else, for you have to look about twenty years ahead, since the value of land is some twenty years' purchase, while in a great many other things you do not have to look ahead more than a month or two.

The usual time for closing the discussion has arrived, but if it is the wish of the meeting to prolong this discussion, I am ready to be fired at as long as you like.

NINTH GENTLEMAN.—We have got away from the subject of money. I think money is valuable according to the security of the government that issues it. In regard to the redundancy of currency, I think we had an illustration of that both North and South during the Rebellion, when it took five hundred dollars to buy a hat in the South, because there was no credit behind those dollars. Some people said gold had advanced, but in reality it

was the paper that had depreciated. It took a good deal more of the money of our government to buy an English sovereign than before, and then it was that the German and English bankers made their money. It took about two hundred and eighty cents of our money to buy a gold dollar. A German banker could come here and buy our 5.20's at forty cents on the dollar. For four hundred dollars he could buy what it took a thousand of our dollars to buy. There was a redundancy of currency because our credit was impaired. A man from across the Channel could buy as much with his gold as before the war. It was on account of the extra amount of money which we had issued that it was at a discount. When I was a boy I was employed up-town, and it was my business to go down to Drexel's every morning to sell our currency. Some of it they would shave five per cent. and some only half a per cent. There was too much money.

TENTH GENTLEMAN.—Would you kindly tell me whether in your purchases in Europe you ever attempted to buy anything with the greenbacks called the United States demand note of 1861?

NINTH GENTLEMAN.—Our transactions were always on the basis of gold, our greenback currency was so much depreciated. If I sold the government goods it would pay me in its depreciated currency, but when I wanted to pay duties I had to pay in gold.

TENTH GENTLEMAN.—But I understand that that particular note never did depreciate even when the other greenbacks did.

NINTH GENTLEMAN.—I do not remember, but it is possible we might have been able to use that particular species of note in paying duties. Another thing which came to my mind showing that we should have a paper currency that would be the equivalent to coin was, that I find when I was abroad that I could buy as much with an English bank-note as I could before. I sold my English bank-notes in Paris, and when I got into Switzerland



(this was after the Franco-German War) I could not get rid of the French paper money, proving again that there was a depreciation of the currency because of the impairment of the credit of the government issuing it. As to the notes you speak of, there were different issues under different acts, and my memory is at fault about that particular issue being received at par by the custom-house for duties. But it came to my mind very forcibly that the English bank-notes sold at the same premium in France that the gold did, and that ought to be the way with our government. It is not correct to say that gold is at a premium; it is the paper that depreciates relatively with the gold; the gold is not appreciated.

## LECTURE VI.

### HISTORY OF AMERICAN CURRENCY.

LADIES AND GENTLEMEN,—In taking up this subject of the American currency I feel that it is a very wide field to cover in one lecture, especially since it relates to matters nearer home to us, and we naturally wish to treat of these matters in more detail. I can, therefore, only indicate in a very general way the chief points in the history of American currency, and I shall hope, by the facts which I present to-night, to bring before your minds certain ideas in regard to the development of our institutions, especially our financial institutions, that you can carry away to approve of or disapprove of according as you find that they do or do not square with the facts.

I have thought best to divide the subject, as you will see by reference to the syllabus, into three topics: first, American coinage, then American bank-notes, and then American government paper money. The history of our coinage is so mixed up with our political history that we can more readily adopt a political division than any other, and we accordingly find three or four chief periods. Of the first period, the colonial period, before the United States government was founded, there is little to say for our purpose. There properly was no coinage in America during the whole colonial period. There were a few attempts at coinage. Maryland had a mint at one time, and one or two of the other States, but they practically amounted to nothing. Massachusetts had one or two issues; but the coins, so far as we had coins before the Revolution, were English coins to some extent, and, later, Spanish coins that were circulated by Spain in the southern American countries and travelled up here.

We have already seen that in the early colonial period the

different colonies used all sorts of substitutes for coin,—for instance, the Indian wampum and bullets in Massachusetts, skins and furs in New York, tobacco in Maryland and Virginia.

This lack of coin was the great reason for the early issues of American paper money. In our later colonial history, as I said, the principal coins which were circulated in America were Spanish coins. The Spanish dollar was really taken as the basis for our own dollar, and the Spanish dollar and half-dollar circulated for a long time after the Revolution. During the war of the Revolution an attempt was made towards a system of coinage. About the same time, in 1785, there was a law passed in France under which there were to be coined both gold and silver, a double standard, at the ratio of one to fifteen and one-half. After the establishment of our government, when it was proposed to establish a mint, there was a good deal of discussion as to what was the proper ratio between the two metals, and it was finally determined to coin at the ratio of one to fifteen. The number of fine grains in the silver dollar was three hundred and seventy-one and one-fourth, the same number of fine grains of silver that is in the silver dollar to-day. When we speak about a debased dollar, or a seventy-cent dollar, we must not misunderstand the situation. There is the same number of grains of pure silver in this seventy-cent dollar that there have been in the American dollar from the establishment of the mint in 1792. The gross weight has changed a little, owing to the fact that a different standard of fineness was afterwards set and the amount of alloy in the metal was cut down a little, but absolutely the same amount of silver constitutes our dollar to-day that constituted it in 1792, so that the debasement of the silver dollar that has come about now has come from the cheapening of silver metal simply, and not from any act of Congress cutting down the amount of silver in the dollar.

Gold was directed to be coined under this law of 1792, and at the ratio of one to fifteen of silver. Both of these metals were

made legal tender in unlimited amounts, and free coinage was instituted at that time. By free coinage I mean unlimited coinage. There was no limit set on the right of any one to bring metal to the mint and to have it coined. Thus we have really a bimetallic basis at the start, although silver was made nominally the unit. Enough gold was put into the gold eagle to make it worth ten silver dollars, at the proportion of one to fifteen. So far as this ratio is concerned, this law obtained down to 1834. In 1834 a change was made by which the gold and silver were coined at the ratio of one to sixteen. You will understand that in France at this time, beginning in 1785 and continued by the law of 1803, the ratio was one to fifteen and one-half. Our government at the start made the ratio one to fifteen, and found that this did not work very well, because gold was worth more than fifteen times silver, and the gold coin tended to leave the circulation. The law of 1834, establishing a ratio of sixteen to one (approximately), acted in just the other way and drove the silver out. The gold period thus begins in 1834, when the silver began to be driven out of circulation.

During this period also the Spanish money kept in circulation in this country to quite an extent. It was worn down a good deal, because, staying in this country, it could not be recoined, and it helped to drive our silver out. This loss of silver and the cheapening of gold after the California discoveries led to the next law which we take up, the law of 1853. There are one or two laws before 1853 which we will not consider. Before the Act of 1853 a half-dollar contained just half as much of pure silver as the silver dollar, and the quarter-dollar just one-quarter as much,—that is, they were made of the same fineness and of proportional weight. England had, by her law of 1816, adopted the policy of cutting down the fractional silver so that it would be worth intrinsically less than its nominal value. The chief object in this was to make it unprofitable for any one to melt down or to export silver. The intrinsic value was made so low



that, however silver might go up in the market relatively to gold, yet it would never become profitable to melt the coin down or export it.

In 1853 we adopted the same policy with reference to our fractional silver. The law made no change in the dollar, but the half-dollar and the quarter-dollar and the other coins were cut down by a certain amount, and their coinage was limited to certain amounts to be purchased and coined on government account.

The next law which we want to mention is the law of 1873, about which there has been so much dispute and the mention of which is apt to make bad blood. I do not wish to raise any opposition by my use of terms, so I will not use the word "demonetize" if any one does not like the word. The fact is all that I am after. The fact is that by that law of 1873 the standard was changed in this country from the silver dollar to the gold dollar. Our gold dollar was coined from the time of the discovery of gold in California, but it was not the standard. The law of 1873 expressly declared that the gold dollar should be the unit or standard of value. The amount of silver in the fractional currency, as we have already seen, was cut down in 1853, and it has remained so since, so that it is a token coin.

The fact about the silver dollar in the law of 1873 was this: it was simply omitted from the list of coins authorized to be coined. There is no provision in the law of 1873 for the coinage of the silver dollar. There is provision for the coinage of the trade dollar, but that was not meant for circulation in this country, and it was made legal tender only to a small amount. It was meant for trade with China and the East. It contained three hundred and seventy-eight grains pure silver, being six and three-fourths grains more than the standard silver dollar.

Some people call this a "demonetization" of the silver dollar in 1873; others say it was not a "demonetization." It is small

matter about the terms. We want to know the fact that after 1873, under the law as it then stood, our old silver dollar could not be coined, and we changed from the silver standard legally to the gold standard, and silver was made legal tender only to the amount of five dollars.

I will mention another fact of importance. Up to 1873 we had coined only about eight or nine million silver dollars since the establishment of the mint; a perfectly insignificant sum, you see, and very few of these dollars were in circulation. Whatever inference you want to draw from the fact, that is the fact.

We come now to the law of 1878. Since then we have had constant agitation and no settled policy; hence the name which I give this period. You will remember that the rich silver mines of this country, discovered in 1859 and 1860, became very profitable about ten years later. These mines displaying their unexampled richness just then, and there being a tendency at the same time on the part of some European countries to change from the silver to a gold basis, it was very natural that our people, or some of our people, at any rate, should fear a flooding of the country with silver to such an extent that the two metals, silver and gold, could not be kept at anything like the same old ratio to each other. I suppose that that was the real motive at the back of this law of 1873. But the silver interests just then began to be very strong because of these new mines, and the party in the country who believed that we had an insufficient amount of money naturally joined forces with them. It was not altogether a conscious alliance of interests, but there was a movement to restore silver to its old basis of legal equality with gold.

The very fact that this law had been passed in 1873, striking the old standard dollar from the list of our coins, tended to rouse the animosity of the other currency party in the country. The agitation for the restoration of silver to its old basis was so strong that in 1878 the champions of the act of 1873 were

forced to a compromise. It was impossible for the silver advocates to get through a free-coinage law. A measure was adopted, however, restoring the old silver dollar, but limiting the coinage. We have just seen what was the basis of the fractional silver since 1853, the government purchasing so much silver, coining it on its own account, and putting less silver in it than its nominal value. It was made a token currency.

Substantially what this law of 1878 did was to make a token coin of the old standard silver dollar. It restored it, but it limited the amount which could be coined, and it went over to the principle of coining on government account. The government was obliged to coin from two to four million dollars every month.

The law stayed practically unchanged until 1890. All this time there was a strong agitation, which, as you know, continues to-day, and a measure was carried through Congress in 1890 which changed the basis of this whole system. This law of 1890 provided that the government should purchase silver bullion at the market rate. There was a certain limit put on the rate which the government could pay; it must not go over a dollar for three hundred and seventy-one and one-fourth grains of pure silver, equivalent to \$1.2929 an ounce. At or below this rate the government is to purchase all bullion offered up to a maximum limit of four and a half million ounces a month. The Secretary of the Treasury is not obliged to coin this all, but in payment for it he issues a new kind of currency which is called a Treasury Note. It is not like the silver certificate, which simply certifies that so many silver dollars have been deposited to be had on demand; but it is made redeemable in coin, so that the Secretary can pay, in the redemption of these notes, either silver coin or gold coin, at his own discretion, and the law declares that it is the policy of the United States to keep gold and silver on an equality, at a fixed ratio; in other words, that the government has a bimetallic policy. That is a declaration of the law

which may mean something and may not, but the fact is that the provisions of the law have been carried out and large numbers of these treasury notes issued. They are full legal tender the same as the gold coin and silver dollars.

We have before us now the chief points in the history of the American coinage, and they will be of use to us in the discussion of bimetallism and the silver question hereafter. Let me say, while these facts are fresh in our minds, that the French policy of coining both gold and silver, at the ratio of one to fifteen and one-half, was kept up through the century down to 1873. During the influx of gold from the gold discoveries many people were frightened about gold in the same way that they are frightened about silver now, fearing a disastrous fall in value, but France still kept up her policy of throwing her mints open to the coinage of both gold and silver at this fixed ratio. In 1873, however, France suspended the coinage of silver. When we come to discuss bimetallism I will speak further upon that point. I mention the policy of different countries now in order to keep the facts parallel.

You will recall that during this time, from 1816 on, gold was the standard in England, and the silver currency was merely a fractional subsidiary currency, so that in the law of 1853 and the law of 1873 we have substantially followed the policy of England. What the advocates of silver now would have us do is practically to follow the policy of France, a policy which, from the force of circumstances, has been abandoned. At first we practically followed the French policy, then we went over to the English, and now there is an agitation to go back to the French system.

In the colonial period there is very little upon the subject of American bank-notes that we need to notice. Certain land-bank schemes were advocated in this country; the idea of note-issue was not developed, and was not on a scientific basis at all, and many schemes proposing different kinds of a basis for



paper currency were rife in England and in this country at that time.

The two great periods in our history in reference to bank-notes are, first, that which follows the Revolution and extends from the Revolution to the era of the Civil War; and, secondly, that which follows the Civil War to our own day,—the free banking period and the national bank note period. I will not attempt to describe here the Bank of North America,—Philadelphians ought to know a great deal more about that bank than I do,—nor the first Bank of the United States, nor the second Bank of the United States, except to say in regard to these United States banks that they were intended chiefly, as the Bank of England was in its origin, as an instrument to ally the people who were financially powerful to the government, and to float the financial schemes of the government.

Every United States history tells the story of President Jackson and his war upon the second United States Bank. The lines along which the fight went in regard to both the first and the second United States banks are evident. By instinct and also consciously the people of one party saw in this institution, allied to the government and acting from the government upon the financial leaders of the country, a tendency towards the extension of the central power of the government: and this they strove for. On the other hand, the party of Jefferson and of Jackson were averse to such a scheme, wishing to minimize the action of the central government upon the citizens, and to uphold rather the power of the States, the States at that time representing the individualistic element in our politics.

It was chiefly a political fight which went on between these two parties in reference to the United States banks. It was not, primarily, a financial question at all, for the people did not then so fully appreciate what the office of banking was as we do now.

What I wish you to notice particularly is that with the revival

of commerce and industry in every part of the country after the Revolution there sprang up a demand for some better facilities of exchange, and this demand produced a real mania for banking in every part of the country. A multitude of banks were chartered under State law. It seems as if the States almost entered into a rivalry in issuing bank charters. The chief function of these banks was to issue notes,—the general characteristic of early banking, as we can understand quite easily by thinking for a moment of a poor people on the frontiers of civilization. If they are enterprising people, their great need is for credit in some form,—transferable credit, which can be borrowed. It is only in well-established, rich communities that bank deposits are large, and transfers of credit are chiefly made by check. In earlier banking and in poorer countries the demand is for note-issues by the banks; the banks have no other resources than their note-issues by which to discount paper or make loans. Notice the same fact in the development of banking in Germany to-day, that as they are consolidating their state, and while their banking industry is comparatively crude, their note-issues are very large; the deposit system is not nearly so well developed as it is in England and in this country.

Note-issue, then, is the first development in a banking system, and that was the great want of our early banks. We have so often heard of the “wildcat” currency that there is no need to dwell on it. These banks, utterly irresponsible, issued their notes freely, without any basis of security at all, without any limit as to their circulation. Wherever they got a chance to put out their notes they put them out. They would not circulate beyond the place where the bank was known, and as a consequence one could not travel from one part of the country to another without suffering enormous loss at every place by the heavy discounts on exchange. Then there came a call for a system of regulation and security of issues.

In New England and in New York there had appeared the

beginnings of a system of security. The "Suffolk" system began in 1825 in New England, and lasted down to the Civil War. That was a system by which the banks were to redeem their notes, not merely at their own counters, but at a central bank in Boston. Thus, you see, all members of that association or system were obliged to keep funds at this central bank for the redemption of their issues, and this gave a currency everywhere throughout New England to the issues of all banks belonging to the association. Logically, note-issue is merely the seeking of a wider guarantee, a wider credit for individual obligations. A man's personal note will circulate in a very limited business circle. What he does when he takes his paper to the bank and has it discounted in bank-notes is simply to get the bank's endorsement of his credit,—that is, he gets the wider credit of the bank.

Now, under the Suffolk system another step was taken, by which a person getting one of these notes got not merely the wider credit of a single bank, but really the wider credit of the whole system. We shall see how this idea, later, was developed further in the National Bank system.

Another system of securing issues grew up in New York, which had virtually the same effect, by which the banks were obliged to deposit certain securities at Albany for the redemption of their issues. I will not go into this, because it is substantially in its features the same system which was taken up in the National Bank system afterwards. It is probably true that the New York idea was the idea which was copied and improved upon in the system of National Bank issues.

Finally, we come to the National Bank system, and here we find that this idea of a wider circulation for individual credit is realized in the system which we have, by virtue of which a bank-note of any bank will circulate throughout the whole United States. It is a system of circulation which is national, and a system likewise which has the ultimate payment of its notes

absolutely secured, for there is a government guarantee back of the guarantee of the banks.

Like most other national banks, this bank system was established primarily as a fiscal scheme of the United States government to float its bonds. The real reason for requiring the deposit of the bonds of the United States as security for the notes was in order that the government might procure a market for its bonds. It was a war measure, and it followed the legal tender or greenback law, which was meant to meet the immediate needs of the government, while this National Bank system, it was supposed, would furnish the funds that were required later. The delay in the establishment of the national banks really made quite futile that part of this scheme which aimed to secure a market for the bonds, but it did bring about, as we see, stability and order and unity in the currency.

There are a few general facts in regard to government paper money which should be mentioned next. We have seen the need, in a new country especially, where coin cannot be got, of some sort of paper money by means of which credit can be got in a form that can be circulated from hand to hand. In our colonies, as nowhere else, was developed a system of paper money, consisting of simple promises by the government to pay in coin, with the government guarantee. They were called bills of credit. It is a long and tedious history in almost every colony, and there was over-issue everywhere, and depreciation, and misery of every sort that attends a vitiated currency. The governments were too poor or too dishonest to redeem their notes. Especially was the government by the Continental Congress unwise and dishonest, for it issued notes most recklessly and failed to redeem them. The people grew to have such a distrust of the issue of government paper that, as you know, there was a great fight at the time of the founding of the Constitution as to whether the national government should be allowed to issue bills of credit. The people felt so sore about



it that they forbade the States, in the Constitution, to issue bills of credit, and a measure was proposed as a part of the Constitution forbidding the United States also to issue bills of credit, and was discussed in the convention, but was finally struck out. There is no doubt that in the minds of the great majority of the convention that framed the Constitution, and of the great majority of the people in the country at that time, it was deemed to be unconstitutional for the United States to issue bills of credit or notes. That such was the case, I think, needs no better argument than the fact that down to 1861 or 1862 the government never did issue these notes. There were what are called Treasury Notes issued at different times by the United States government, but these were a sort of United States bonds; they bore interest and were for a short and usually fixed term. If you want to read a very interesting account of these issues I would advise you to look in Knox's "United States Notes." Some of them were made payable on demand and some at a certain time; some of them bore interest; some of them were receivable for public dues,—there was a vast variety of them; but there was no real demand note payable to bearer and made legal tender until the Civil War, when such notes, usually called "greenbacks," were issued by the United States as a quick and ready means of paying their war obligations. The government was straining every nerve at that time to support the Union, and it was by a stretch of the traditional conscience of the nation that the issue of these notes was allowed; but it was a measure which people justified at the time and have justified since as a war measure. When we look at the results of the scheme we must consider, I think, that the event, at any rate, justified the action. Many people admit the necessity of these legal-tender notes as a war measure, who do not agree with the latest decisions of the United States Supreme Court sustaining the legality of the reissue of these notes as a permanent policy of the government.

The whole number of notes which were allowed to be issued was four hundred and fifty million dollars, authorized by successive laws, and it speaks highly for the honor of the government at that time that even under the severe pressure of the war this limit was not overreached and the depreciation of the paper was not, we might say, disastrous. Our record, it is true, cannot compare with that of the French government in the crisis caused by the Franco-German War. Although issuing vast sums of paper money, it yet managed the issues in such a way that the depreciation only went to four or five per cent., while in this country, as you know, gold was for a long time at a very great premium.

The chief act after the "greenbacks" were put in circulation was the Resumption Act of 1875, which required that on and after January 1, 1879, these notes should be redeemed in coin on demand. The suspension of specie payments had been general during the war, and the date of resumption was put off for four years, to give time for the country to prepare. When it came the people were ready for it. It was simply declared that specie payments would be resumed at that time, and they were resumed. The fact that everybody could get coin at that time for the paper took away the desire of people to present their notes, and there never was any great call for the redemption of these notes.

On page 381 of the syllabus I have put down the present currency of the United States. I am sorry to say that from the confused character of the laws I have made some mistakes in looking them up. Among the gold coins strike out the dollar, discontinued in 1890. Among silver coins strike out the half-dime, discontinued as long ago as 1873. Under the bronze and nickel coins strike out the three-cent piece, which was discontinued in 1890. I believe the schedule is correct otherwise.

Now, if we take a hurried review of the facts that we have been over, I think we can bring out one or two ideas that will be of service to us. If you will notice the colonial period, not

merely in coinage, but as well in paper circulation of both kinds, you will see that there was an utter lack of unity; there was a miscellaneous currency of many kinds, but no co-ordination of part with part, no system of any sort; it was the reign of individualism, so far as our currency was concerned,—everybody doing as he pleased in his own place.

This was, in fact, a feature of colonial life, not merely in the currency, but as well in all industrial and political activity. It was every state for itself, and in some places it was every township or every county for itself, as the case might be, or every man for himself,—no idea of concentration or unity in any way. The great trouble, as you know, in our whole colonial history was to get united action among the colonies for any purpose, even for repelling invasion. It was only the struggle with England which finally compelled united action, and out of this grew the unity of the states as a single nation.

In the political life of the colonies, then, and in the industrial and financial life of the people, there was this same character of isolation, provincialism, individualism.

During the second period, reaching from our Revolution down to our Civil War, there was a gradual development from the old condition that I have just outlined to a new and concentrated system, where one part worked with another and all parts worked as one whole. This tendency showed itself very clearly in those schemes which I have mentioned for the regulation of banking,—the Suffolk system and the New York system,—which were attempts to bring order out of chaos. The end was reached earlier as far as the coinage was concerned, for the Constitution provided that the United States should regulate the coinage, and our mint has been in operation during the whole period of our history as a government.

In pointing out this political and industrial concentration, there is another fact that I want to call your attention to, that this period was likewise the great railroad era. Every means was

now at work for bringing about closer relations and a greater unity of life among the people. A more and more highly organized system of currency and banking, better means of transportation, bringing the people from every part of the country into closer industrial relation, and at the same time the agitation for a stronger federal government. The states' rights agitation thus is seen to be simply a part of a great process which was going on, not merely in political life, but also in commercial life and in the whole industry of the people. It was a growth in learning how to live together, an evolution out of the old provincialism and individualism towards a *true* socialism or mutualism or collectivism.

From the Civil War to the present time is the period of national unity, of political consolidation, of railroad consolidation, of financial consolidation, of industrial consolidation. The true economy of the monopolistic management of a great number of industries is understood in our days as it never was before. We are working rapidly and half blindly towards some higher social organization yet unknown.

Now, if we had time to look at other countries, we would find a very singular parallelism of development. It was just about this same period, for instance, that we find in Germany and in Italy a national consolidation. The old idea of states' rights is being worked out of the minds of people in Germany and in Italy as it has been in this country, and one of the first things done by those countries when they have become consolidated has been to establish some sort of a government bank. The government bank, or government system of banks, is thus seen to be a part of this general movement towards a higher consolidation and a closer mutual life of the people.

Let me hint at another idea. There has been great agitation these later years for internationalism in our currency. We have a sort of international currency in gold, or in gold and silver combined, which flow from one country to another at their bullion



value; but there has been a movement also for an international currency founded upon an international agreement, a conscious attempt at an international system. This internationalism is growing not merely in matters of currency, but in other matters as well. What may come of it I do not care to prophesy.

In these six lectures, which were nominally upon the history rather than upon the theory of money, I think we have learned that there is some advantage in the study of the historical evolution and growth of our institutions. If you wish a concrete instance, I might say that in 1870 and after, when Germany wished to establish a system of banking which should be adequate to the new idea of empire, Germany studied the English banking system, and the Reichsbank of Germany is modelled very largely after English methods. It is brought into a closer relation to the government than the Bank of England, as is natural in everything German, and there is also a system of departments and of branches in the different departments,—a co-ordination which suggests also the French system.

The idea which this illustrates is that the Germans in a year or two are able to establish a system which shall work in the new conditions under which they are placed, but which they would have been utterly unable to establish in the same length of time if they had not had the benefit of the long experience of other lands, if they had not known the history of banking in England. And you will see, likewise, that when our National Bank system was established, if the government had not known the New York system they might not have thought out any workable plan in time to utilize it.

These are illustrations of the advantage it may be to the practical statesman to know what has been done in other countries and at other times. It saves errors that in critical times might be disastrous, and it brings advantages that might never be thought of except as the result of a long experience. In our day, knowing the methods of organizing a university, for instance, if

we only have the necessary funds we can get into working order in a short time a new university which rivals in its facilities the universities of Europe that are the growth of centuries.

All this comes from the close and wise study of history, of what has been done in the past. It is not enough that a man have practical sense; that he understand how to carry on his business from day to day. If he wants to reach the highest development in his business, there is no way in which he can do it so well as by getting a broader training, at the start, in the history of his own business, in the methods which have been used and worked out in other countries and at other times. Then his practical sense and his knowledge of the business in which he works will tell him what changes may be made to adapt old methods to the new conditions. It is the only true economy of knowledge, it is the only true policy in our practical life, not to do over again what has been done, but to use our energies in sending farther *forward* the march of mankind.

*Questions to the class to answer during the ensuing week :*

1. Describe the currency measures of Alexander Hamilton, as shown in the establishment of the United States Mint and of the first United States Bank.
2. Compare banking in the United States under the State Bank system and under the National Bank system.

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#### DISCUSSION FOLLOWING LECTURE VI.

MR. SHERWOOD.—In one of the papers of last week there is a question which I would like to say something about. It reads, "Explain the differences of view with reference to issuing notes on a specie basis, of the Banking party and the Bullion or Currency party in England, during the agitation preceding the Bank Charter Act." The real bottom of the controversy was as to whether banks freely issuing notes that were made convertible

into coin on demand could over-issue. That was the point. One party, the Banking party, claimed that so long as these notes were made convertible into coin and kept convertible into coin they could not over-issue, they could not get out more than would be needed, and this paper would not tend to drive the coin out of the country. The other party, the Currency party, claimed that the issue of notes ought to be limited, because, as a matter of fact, there could be a competitive issue among rival banks; that they could get out more notes than the state of trade called for, more notes than would be turned in for redemption, and that they would tend to drive the gold out of the country. This whole controversy, as I said, was what led up to the passage of the Bank Act of 1844, by which the Currency principle triumphed and a practical limit was put upon the issues. It was a sort of compromise measure; the real idea in the law was that the issues should be limited and regulated by law.

Are there any further questions upon the papers or the lecture of last week? If not, are there any questions about the matters gone over in the lecture of this evening?

A LADY.—You made a statement last week that I would like to ask a question upon. You said that it had been stated that an ounce of gold would carry on the exchanges of a community. Now, I would like to ask you, under those conditions, where an ounce of gold would carry on the exchanges of a community,—of course a community with the average industrial pursuits,—what would be the economic relations of all the individuals in that community, and what would be the result if credit was introduced?

MR. S.—As I remember the statement, it was given supposing gold to be used as we use it now, for a basis of credit. I do not suppose the man meant that an ounce of gold could actually be divided up into enough pieces to do the whole work. He probably meant that an ounce of gold would serve as well as more as the basis to carry on all the exchanges of a community.

LADY.—But surely he must have had the intellectual vertigo spoken of in the works on money, for how could an ounce of gold be made the basis of any issue of credit anywhere analogous to our issue of credit? Certainly there would be a great deal of inconvertible paper.

MR. S.—His idea was probably this: that it does not make any difference how much of the money material you have, the whole of it is worth just the same. For instance, if you have a great increase in the amount of gold in the country, and gold is the only money used, your prices will be higher,—the state of trade remaining the same,—but the value of commodities will not be changed, and the total value of that money in commodities will not be changed; each unit has a different value, but not the totality.

LADY.—By state of trade what did he mean?

MR. S.—That is my phrase.

LADY.—Well, then, what do you mean, professor, by state of trade? Do you mean that trade which is really legitimate and aids production, or the state of trade which is illegitimate and does not aid production?

MR. S.—I simply mean the carrying on of exchanges which we call the money work. My idea there was that the demand for money remaining the same, if you increase the quantity of money, prices will adjust themselves to that increased quantity; if you decrease the quantity of money material, prices will adjust themselves to the lower amount, so that a smaller amount will carry on the exchanges as well as a larger amount.

LADY.—Has there ever been such a state of affairs where, practically, the demand remained the same?

MR. S.—I do not suppose there has. Of course trade fluctuates one way and another, and the demand for money fluctuates with everything else that is in human life. It does not remain stationary.

LADY.—Well, then, there is really no such economic fact as



that an ounce of gold could carry on the business exchanges of a community, is there? That is all hypothetical.

MR. S.—It was put as a hypothetical case, of course.

FIRST GENTLEMAN.—If Congress can say that twenty-three grains of gold shall equal a dollar, can it not say that twenty-two grains of gold shall equal a dollar? and if twenty-two grains, why not twenty-one grains? and if twenty-one grains, why not one grain? and if one grain, why not a thousandth of a grain? and if a thousandth of a grain of gold equal a dollar, is it not conceivable that an ounce of gold will do the work of our whole country to-day?

SECOND GENTLEMAN.—Have we not almost reached that condition already? Do not statistics show that we have reached a condition in which actual money—gold and silver or money issued upon a gold and silver basis—is hardly needed? That, I think, is shown by the statistics of the United States government at the Treasury Department. These statistics show that in the city of New York ninety-eight per cent. of the exchanges are not made in gold or paper money, but are simply made with credit-money, checks, and so on; and that in the whole country ninety-five per cent. of the entire volume of business is done in credit-money. Now, with that condition in view, if we had a perfect system of credit, if men would not undertake to do anything they could not do, if men did not sign notes they could not pay, if credit was absolutely good, could not the whole volume of business in this country be carried on without even a single ounce of gold? Why would it not be possible to carry on business without a single ounce of gold if we do carry on ninety-eight per cent. now in the principal city, and throughout the country ninety-five per cent., without a gold dollar passing hands? Why, with perfect credit, could we not carry on the business of the country without a single gold dollar at the base?

MR. S.—I do not see any fault in your logic. If I could grant

your premises, your conclusion would follow. But where could we get the perfect credit?

SECOND GENTLEMAN.—We have nearly reached it now,—ninety-five or ninety-eight per cent.

MR. S.—Are you not taking rather an extreme case in taking New York City? What would you do with the extreme frontier, where the credit system is not used?

SECOND GENTLEMAN.—I do not know how low the percentage runs in certain sections, but throughout the whole country ninety-five per cent. is done without money, leaving only five per cent. done on an actual money basis.

MR. S.—Suppose you found that this great use of credit was concentrated very largely in the cities and large towns, and that in country districts it was not carried on to such an extent. Suppose you also found that under our system the tendency of the money is to concentrate in the same place where the credit does very largely. The idea is suggested, How are you going to work out your perfect system of credit?

THIRD GENTLEMAN.—Professor, I would like to know on what basis that estimate is made, about the ninety-five or ninety-eight per cent. I can imagine that there is some way of finding the amount of daily exchanges or weekly exchanges made through checks,—namely, that amount which passes through the clearing-houses is practically equal to the amount of traffic through checks; but how can we find out what a dollar does? We know approximately the number of dollars in the community, but how much does a dollar do? I cannot imagine any way by which even an approximate estimate of the amount of money work done by actual money can be made.

SECOND GENTLEMAN.—Allow me to state that on at least two occasions, under direction of the Comptroller of the Currency or the United States Treasurer, it has been made the duty of every receiving teller in every national bank throughout the country, on certain days, to keep an exact account of the different kinds

of money that came over the counter. The Treasurer has received these reports and has tabulated them, and these statements are the result of that investigation. This was done one day about a year ago, and one day previous to that, and possibly a third day before that.

MR. S.—You would not say that all the money in a community passed through the banks on a single day?

SECOND GENTLEMAN.—No; not all the business transactions in a city would be done in the banks, but it is an indication, and a pretty sure approximation.

THIRD GENTLEMAN.—No, sir. Each check practically represents one exchange, very rarely two exchanges; but by the time each piece of money passes into the bank it may have made fifty or a hundred exchanges. Therefore that estimate is certainly a very unreliable one.

MR. S.—Yes, of course; any such estimate as that must be merely an approximation, and I do not think it could cover the districts remote from banking towns. I would like to tell a little incident told me by a banker up in my native village, a little country village of four or five thousand people. The custom there is for loans of money on farm mortgages and otherwise to be made on the first of every April, and principal and interest are generally made payable on that day. This banker said that about fifteen years ago it was necessary for him regularly the last of March to send to New York for a large supply of money, and that on the first of April the farmers who borrowed or paid money would come in and get the actual money. He said that along the whole length of the street you would see those men counting out their money. They did not know what checks were, and they were afraid to use them. A day or so after the first of April this money found its way back into the bank and had to be shipped to New York again. That was only fifteen years ago, and it was a comparatively intelligent set of farmers who lived there at that time. When you think that

this was not far out of New York, you can see that in country districts remote from cities, where banking transactions do not go on, the credit system would be very little used.

FOURTH GENTLEMAN.—I would like to ask a question as to the law of 1873. Section 15 says that the silver coins of the United States shall be a trade dollar, etc. Such coin shall be a legal tender, not exceeding five dollars. Section 21 says that any owner of silver bullion may deposit the same at any mint to be formed into bars or into dollars of the weight of four hundred and twenty grains troy, designated in this act as trade dollars. Now, I think you said that the trade dollars were not legal tender and were never intended as a coin for the United States. On July 26, 1876, the trade dollar was robbed of its legal-tender quality, and there was a large loss thrown upon the community, and it was not until 1887 that they were ordered recoined. The question I want to put is, Was there ever any honorable excuse made by anybody for taking away the slight legal-tender quality that that dollar had, and robbing the community of fifteen or twenty cents on that dollar for the benefit of some few who held them?

FIFTH GENTLEMAN.—It was never taken away. The dollar was a legal tender all the time. It was only a discontinuance of its coinage for five years, and in February, 1878, provision was made for its recoinage on the old basis.

The law of 1873 had the effect of demonetizing silver. Now, from 1687 down to 1873 silver commanded a higher price than the standard fixed by this government: about fifteen and one-half and a little over. During the first years of our government, of course, it had a higher value, but that was changed subsequently. In all the time down to 1873 the average is about 15.72. Of course the trade dollar was intended to correspond with the Mexican dollar. It was made to circulate in Japan and China. It was a little heavier,  $7\frac{1}{2}$  grains, same fineness, 900 fine, but weighing 420 grains.



And now, while I am up, if you please, I will answer a question asked by a gentleman to-night. I will give you some statistics in regard to the deposits made in the 3474 national banks of the country on September 17, 1890:

Gold coin . . . . .	\$3,702,772, or	1.13	per cent. of total receipts.
Silver coin . . . . .	1,399,991, "	.43	" "
Gold Treasury certificates . .	6,159,305, "	1.88	" "
Silver Treasury certificates . .	5,908,714, "	1.81	" "
Legal-tender notes . . . . .	7,665,666, "	2 34	" "
National bank notes . . . . .	4,371,778, "	1.34	" "
United States certificates of deposit for legal tenders . .	105,000, "	.03	" "
Checks, drafts, etc. . . . .	168,803,756, "	51.58	" "
Clearing-house certificates . .	2,428,834, "	.74	" "
Exchanges for clearing-house .	126,596,873, "	38.68	" "
Miscellaneous receipts . . . .	135,562, "	.04	" "
Total . . . . .	\$327,278,251	100.00	

So you see that gold and silver coin bears a very small proportion to the whole amount. The two together make a little over \$5,000,000 out of the total of \$327,278,251.

SIXTH GENTLEMAN.—What would have been the effect if there had been no tax imposed on the State-bank circulation?

MR. S.—It would have been a tougher fight for the national banks to get a start.

SIXTH GENTLEMAN.—Don't you think the State banks would have been exterminated naturally by competition?

MR. S.—I doubt it very much, starting in at that critical time. The national banks were very slow in organizing as it was until they did put that tax on the State-bank circulation. They tried it a year or two without that tax, and the national banks were very slow to organize. But when they put that tax on the State banks, they began to change rapidly into national banks.

## LECTURE VII.

### HISTORY OF MONETARY THEORIES.

LADIES AND GENTLEMEN,—In beginning the second half of the course, passing over from the historical to the theoretical part, it would be well to review very briefly some points which we think have been gained by the historical study.

We are warranted in saying that one thing which this study has taught us is, that our industrial civilization depends to a great degree upon specialized industry, upon division of labor. We have learned, I think, that one of the necessary ideas involved in this specialized industry or division of labor is the notion of a surplus, a capital, a something saved from the consumption of to-day that will serve in the production of to-morrow; that will bring thus a larger product in the future. We have learned that from this springs a system of exchange between those who have thus produced a surplus, so that each may have something which has not been produced by him but has been produced by others, and thus is brought about a larger and a wider and a better consumption for every person in this great and complicated system of production.

We have learned, also, that one of the necessary conditions of this specialization of industry, and one of its most necessary instruments, is some system of money through which can be brought about the exchange of these commodities, the one against the other, by means of a third term,—an intermediate commodity, or an intermediate title to the commodities, and without a direct exchange of one commodity against another.

We have learned that no sooner has man fully acquainted himself with the use of money than he has begun immediately to

expand and go beyond the simple money system, building up a system of credit upon money, a system of representative money in the first place, perhaps, and then a system which represents not always the money, but merely values or commodities. This is a process which we have not yet finished, but this fact is plain, that we do proceed from the use of money in its first and simple sense, that of a commodity which is used as a medium in the exchange of other commodities, to a more complicated idea, to a finer and a more spiritual idea,—that of credit, and credit which rests, in the first place, upon the confidence of man in man; but which rests also upon the ability of man to wait into the future for the enjoyment of that which he has in the present.

And then we have learned that no sooner is this credit idea worked out than credit is organized and systematized and made an essential part of the whole industrial process, both of production and of consumption. This has been done historically, as we have seen, through a banking system in some form or other. The vast extension of credit which marks modern industry has been through the banks. We have learned that England has led the way in this great extension of the credit system, in carrying on and refining the use of money to its highest degree. We have learned, likewise, that the United States have copied England very closely in many ways, and have, in some ways, carried the idea to a better development than England. We have seen that Germany and France in this respect have been backward; although, if we study the history of French banking, we may see that the French are, in some ways, among the very best bankers and financiers in the world. There is no more splendid financiering than has been done, notably by the Bank of France, in the Franco-German War.

There is, then, a process of growth from a simple form of industrial life to a more complicated form. This is no phenomenon by itself; it is something which appears not only in the industrial and financial world, but in everything which enters

into our civilization. In fact, civilization may be said to consist of that very thing,—a development from a simple condition of life to a more complicated one. With this development it becomes necessary to have machinery that is adjusted more delicately to meet the demands of the new and the larger and the better life, and, therefore, with the growing intricacy of our trade relations, with our production in every part of the world for consumption in every part of the world, we must expect to find the same intricacy, the same delicate adjustment, in the banking system that marks every other form of organized social activity.

Of course the more delicate, the more intricate, the machine is the greater is the danger of its becoming disorganized. With the banking system, as with everything else in the progress of our race, we find that all advance is achieved with cost, and we must not always be too ready to condemn an instrument because through that instrument harm has been wrought.

We have learned also through this study that there is no absolute and fixed scheme of any sort in the financial world, no one money material, no one unalterable system of banking organization, no one institution which is applicable to all races and to all times. We have seen how, in the racial growth from a savage to a civilized life, almost every commodity which the world produces has been used as money; we have seen that in the different commercial nations there have been different banking systems and different money systems, to a great extent. We must learn, then, to look somewhat broadly at these questions. If one writer to-day, for instance, says that silver is the only thing which is fitted for money for the use of nations, we are not bound to believe him; if another writer tells us that gold is the only thing which we can use as a safe basis of our currency, we are no more bound to believe him; if any one tells us that a scheme like our national banks is the only scheme which can be properly worked to meet the conditions of our trade, and is the only scheme that should be copied by all other nations, we are



not bound to believe him; if an Englishman insists that the Bank of England is the only true type of a bank, we are not bound to believe him.

The thing which we have learned is, that among every people there grows up a commercial system which has been the outgrowth of that nation's life, into which the thought and the activity of that people have entered, and which is, probably, in their present conditions, the best thing for them. I do not mean to say that a nation can have no improvement over its present methods, but we must not argue from the successful working of one money material, of one banking system, that therefore that is *the* system, *the* money material, which must be copied and used by all the world. If we do this, no matter how logically we shall work out our scheme, in applying it to other nations we shall always fail.

In other words, there is progress. As we grow to a higher development in national life we need improved social machinery to carry on this activity, and therefore we must always look for change which shall be a progress, which shall work out better the purpose underlying this activity.

In passing over to the theory of money we inquire, first, what is meant by theory. Many short-sighted people see no use in theory; they hold that we must live from hand to mouth by the application of the practical materials that lie around us to the practical needs of the day; they think that when we begin to theorize we are leaving the paths of common sense.

But it seems to me that there is a deep and fundamental fact which makes man different from anything else in the world. In plant life, for instance, the plant, so far as we know, lives and grows and dies without any consciousness of what its life is, or of its relation to the earth out of which it grows. In animal life, so far as we know, the same fact is largely true. Neither animals nor plants are found theorizing about their place in the order of things, about the life they lead, about the purpose of

their life, about what they can accomplish. In plant life and animal life we do not find any conscious progress, any process which can be said to start from within the animal consciousness or the plant consciousness and raise the plant or the animal into a higher life.

With man the case is very different, and theory, after all, springs only from the great antithesis, man over against nature, mind over against matter. Without going into the philosophy of this, I wish simply to say that as man lives his life upon the earth, the processes of his life become gradually clear to his consciousness. Usually, it may be true that he theorizes after the fact, after he has lived the experience; but he has also a power of grasping at an ideal that is ahead of him, of projecting into the future this past experience and building upon it a larger life and a higher progress and a better machinery of progress. In other words, out of this consciousness of his life man forms an ideal, and consciously directs his progress towards that ideal.

That is what the practical man does every day; he is always theorizing; he has a theory about the way to achieve practical success, and in putting that theory into practice he either makes success or failure. Business is impossible without theories, which are more or less logical, which look to a certain end, and along the lines of which the business-man works. Theory is, in essence, nothing else than this: simply an effort on the part of men to grasp the meaning, the logical connection between their practices, their activities, and to bring them into harmony, into a system, so that they may see what they are doing, and so that they may make this system, if possible, the basis of something better in the future.

A French philosopher, Diderot, has said that every science has three processes: one, the historical process, by which we study the activity of our subject in the past, and see what has been done; on the basis of that we build the theoretical part of science; we systematize this knowledge, we bring it into some

orderly and logical form which seems to make it plain and consistent; and, finally, we come to the practical part, to applied science, which looks to the working of the theory, and which also looks to progress in the future. Theory is the key at once to the historical and the practical processes of science: it unlocks both past and future.

As an introduction to the second part of this lecture course I wish to present a hasty view of the principal theories or ideas upon monetary matters which have appeared in the writings of the world. The stream of thought upon monetary science is not a constant one. It is rather like a river which runs upon the surface of the earth for a while, then disappears beneath the earth, and finally again comes out into the light of the world. If we look back over the writings upon money which have come down to us, we learn that before any systematic works were written there were in this science, as in almost every other science, many loose ideas.

The analysis of this subject which I have made in the syllabus (page 382) brings out only the chief topics which have been treated by former writers. They refer to the *nature and uses of money*, to the subject of *interest*, and, later, to the *value of money*.

In the Oriental world several centuries before Christ the monetary subject which received the most attention was the subject of interest. The discussion was not as to what interest was, but was rather an ethical question as to whether it was right to take interest. The old Babylonian tablets show us, for instance, that there was a practice of taking interest; pawnbroking was just coming over into more legitimate banking, and we have seen how interest was taken on promissory notes.

The word usury, which in our day has come to mean the taking of unlawful interest, in the earlier use of our language meant simply what we mean by interest. When, therefore, you find by the passage in the syllabus, taken from the Old Testament, that the taking of usury was forbidden to the Hebrews,

"Usury of money, usury of victuals, usury of anything that is lent upon usury," the idea is simply that of interest. The Mosaic law forbade the taking of interest. But this was, it must be remembered, a prohibition only to the Jews against the Jews; the Jews were not forbidden taking interest from the Gentiles.

I mention these old laws only to show what laws so often show,—the prevailing idea or theory of the time. It shows the drift of early thought in the East, this law of some thirteen hundred years before our era, in which the taking of interest was forbidden. Notice the peculiar form of the prohibition: "Usury of money, usury of victuals, usury of anything that is lent upon usury." This separation of money from other things, from commodities, becomes important in the interest discussions of this century. The practice of that time evidently was to take interest, not merely in money-lending, but also in lending other things.

The Greek philosophers, in this matter as in many others, were the first to try to systematize their ideas. Plato before Aristotle, and Xenophon also, had written somewhat upon this subject of money, but we always begin with Aristotle in treating of science, because Aristotle was a sort of encyclopedist, collecting and bringing out into a systematic form nearly all that his predecessors had done.

Aristotle, as an economic theorist, was far ahead of Moses. He had grasped quite clearly the idea of what money was,—that the use of money was as a medium to effect exchanges. Aristotle argued that usury or interest was not lawful because money was barren, and could not produce other money, and therefore, if one borrowed money from another, and at the end of the time for which the money was lent returned the money to him, nothing more could be justly demanded. Interest was thus contrary to the law of nature, he said. In this Aristotle had an ethical idea which was parallel to that of Moses; for the law of nature answered among the Greeks to the law of Moses among the



Hebrews. The law of nature was an idea upon which the Stoic philosophy was built, and in its practical aspects it was a moral idea.

Aristotle here mingles the economic notion of the injustice of usury or interest because there was no profit in the use of money, with the purely moral idea that it was unlawful to take it because it was contrary to the law of nature.

But however much these philosophers wrote and talked, the people practised differently, and it was the common thing for interest to be taken in all the ancient world, both in Greece and in Rome. The Romans were an intensely practical people, as you know. They theorized little over questions of philosophy and science, and they added nothing of value in economic theory to what the Greeks had taught.

When the Christian Church comes there is another step in advance. As we have seen, the Jewish law forbade to the Jew the taking of interest from a brother Jew. The essential idea of Christianity was that all men are brethren, and the Church very early made it unlawful to take interest for money from anybody. This law in its rigor was somewhat relaxed, but it still remained the policy of the Church to forbid the taking of interest. The prohibition afterwards came to be restricted mainly to the clergy, and yet the legislation of the chief European nations shows that it was a long time before the taking of interest was legalized for the citizens of those nations.

Quite a number of churchmen wrote upon this subject. I have chosen Thomas Aquinas, who died in 1274 as typical of the views of the Church. A curious thing happened among these mediæval churchmen. The knowledge of Aristotle had been brought to the churchmen and they took up his ideas. In looking over the writings of Thomas Aquinas one is struck with the fact that, churchman as he is, he quotes Aristotle with almost the same feeling of reverence for his authority that he shows in quoting the Bible itself. When, therefore, he finds upon a matter

of this sort that both the Bible and Aristotle are against it, he is very sure that it is a practice which ought to be forbidden.

Thomas Aquinas added one or two other arguments of his own on this subject. He said, for instance, that if it was the time which was charged for in interest, it was a wrong, because time was the common property of all, and no man had a right to charge for it. He said also that there were two kinds of goods in use: first, goods which were consumed in the using; secondly, goods which were not consumed in the using. A house, for instance, is not used up when it is rented. Money, in the very act of effecting the exchange, is used; its value is gone in the very act of effecting the exchange. It is perfectly right to charge for the use of goods like a house, because these goods are not used up. But if one lets a man take money, he uses that money in trade, the money is gone, there is no more use to that man in the money, its value is consumed in the using; therefore, if the lender makes him pay back not only that amount of money, but also something else, he is doing an injustice. I leave these arguments with you, to approve or to condemn, as you may choose.

It is only when we come to the time of the discovery of America that we strike a change in the reasoning upon these topics. We have dwelt several times upon the change which came over the face of European civilization then, how there came a new vigor into commerce and into every phase of social life. Particularly was it true that with the growth of commerce a more extensive use of money became necessary. If people engaged in commerce they must have money, for money was capital to the merchant carrying on foreign commerce. With this growing need for large sums of money in commerce the practice of lending money upon interest increased very rapidly.

This indicates a difference between the lending of money at interest in the Old World and in the Modern World. In the Old World it was generally a needy person who wanted to borrow money; there was comparatively little opportunity for profitable

investment of money; if a man did not use the money himself there was no way, as a rule, in which he could let it out where it would be used. It was not lending money upon interest for production, but for consumption. So there was a great deal more justification for the prohibition of interest in the Old World than there was later. We find that wherever there was a chance to use money profitably in commerce, there the taking of interest was practised, and the precepts of law went for very little.

And with this great revival of commerce after the discovery of America there was a very rapid change of view upon the subject; so that wherever commerce revived—in France, in Italy, in Germany—writers began to defend the taking of interest. There arose with this commerce a school of economists called the Mercantilists. There were writers of this school in nearly every country in Europe. There were likewise attempts to put their theories into practice in France, in England, and later in Germany. To some extent also the same general policy was carried on by many Italian city republics.

The central idea of this school was that it was a benefit to a nation to have all the money that it could get; it must make its trade such that a balance of money would remain in its favor. The precious metals were the object of trade, and the whole commercial policy should be adapted to that end. There were, as I have said, attempts made to realize this theory in the national policy of several nations,—notably, by Cromwell in England; by Colbert, the minister of Louis XIV., in France; and later by Frederick the Great in Germany.

What is called the balance of trade theory naturally followed from such an idea as this. The Mercantilists magnified commerce or manufactures as compared with agriculture; everything, in fact, which would bring back the balance of trade to the country, including such monopoly in commerce in foreign trade as was necessary to produce this result. That has been a

very potent idea in commerce. It was the idea which, as it seems to me, from a national stand-point, was the right foundation upon which to build up the trade of a country. There can be no doubt that the commercial greatness of England and of France were largely due to this policy. It is an idea which has been very persistent, as we know. Even to-day, in our own country and in other countries, it is a common notion that the mere balance of trade in favor of the country is in itself a good thing, no matter what the causes of it may be.

Leaving the Mercantilists, we come to a new era, which, for want of a better name, we call the Capitalistic Period. These Mercantilists in all their theories had no idea of capital as we understand it,—that is, a surplus of product to be used in further production. Even such a man as John Locke, writing in the latter part of the seventeenth century, while he wrote very ably upon some aspects of the monetary problem, had no idea of capital. *Money* was capital to him, as it was to this whole school, and capital was money. But as commerce went on and manufactures increased, a larger and larger capital became necessary to carry on business of every sort, and the class of men who used capital, who worked on a large scale, became more and more prominent. There has been a rapid and continuous growth of capital for the last two centuries at least,—although, of course, its greatest growth has been in the last seventy-five years. It is not altogether a misnomer, then, to speak of the last two hundred years as the "Capitalistic Period."

So far as I know, the earliest writer who recognized clearly the distinction between capital and money was David Hume, writing about the middle of the last century. He showed that interest was paid, not for money primarily, but for capital; that what the person who borrowed money wanted was not the money in itself, but the instruments of production which he used in his business, and that money was simply a convenient way of obtaining these instruments. After this we may leave



the subject of interest in treating monetary questions. I do not mean to say that interest is never paid for the use of money as such, but that the chief idea in interest is that it is paid for the loan of capital and not for the mere loan of money. Interest thus becomes a question not so much of money as of production itself; and we find that, while there has been a very lively discussion in this century of interest and interest problems, it has been more upon these ideas:

First, why is it that a man using capital can produce more than a man without the use of capital? In other words, what is the source of this productivity of capital?

Secondly, who obtains the product of capital?

Interest is important only when one man owns the capital and lends it to another man who uses it. This second question in the discussions of this century thus asks, who has and who should have this extra productivity by means of capital? The producer without the borrowed capital cannot produce nearly so much as he can with the capital; should he share the product with the owner of the capital or should he keep it all, or should the owner of the capital have all except so much as is necessary to compensate the producer for his own labor? It is about these ideas that the fight has raged in economic theory through this century. We will not discuss that subject further, but the question of interest paid for money itself will come up in connection with the money-market.

There is another part of the theory of money which has been discussed in these later centuries,—namely, what is the value of money? Even the Greeks discussed the idea of the nature of money, and the idea of interest has been discussed from the very earliest times, but theories of the value of money are of later origin. I have grouped in the syllabus the chief divisions of this dispute (pages 384, 385).

First, seigniorage, which we have already discussed,—whether the government should take part of the bullion brought for

coinage to pay for its trouble, or whether it should even take more than that and make a profit out of the coinage.

Secondly, the recoinage of old and clipped coins. The most famous discussion of this subject was in connection with the recoinage of 1696, so often referred to, and the last important discussion was that connected with the English law of 1816. Since then people have generally followed the policy of England adopted at that time.

Thirdly, the theories of bimetallic circulation. Shall there be a single standard, and if so, what shall that standard be, gold or silver? or shall we have a double standard and use both gold and silver? These are live questions to-day; but they became important long ago in certain aspects, as early, so far as England is concerned, as the middle of the seventeenth century, when the gold guinea was first coined and had to be rated in silver. This question was likewise discussed at the recoinage of 1696. Then Sir Isaac Newton in 1717 made a report upon this question. Since then the law of 1816, in England, was the most important. The English silver currency gradually went out of circulation towards the end of the last century and was replaced very largely by a gold currency or foreign worn coins, and towards the last of the century, the old standard silver being practically out of circulation, the idea suggested itself to Lord Liverpool and others of putting the coinage on a new basis of gold. This measure involved the lowering of the standard, because the gold money of that time was worth a little less than the silver; and that was practically what the law of 1816 did. England really had a silver standard down to that time, gold being merely rated at a certain ratio, changed from time to time with reference to silver, and at the time when England adopted her gold policy in 1816 she came down to a lower standard than the old silver standard had been. This law was virtually a debasement of the currency.

It is important to remember this fact in our discussions of

the silver question to-day, because we are apt to think that gold is the only metal proper to be used for standard money, and that necessarily silver means a lower standard. Now, if we understand that down to 1816 England had a silver standard, and that in passing over to a gold standard she went to a lower standard than she had before, it will, I think, keep us from making use of some arguments which we hear commonly made, as though gold were necessarily and always a standard higher than silver.

Whether we believe in having silver used concurrently with gold, or whether we believe in a gold monometallic currency, we want, in either case, to have sound arguments, and if we argue as though there was some eternal fitness in the use of gold and gold alone as a standard money-metal, we are apt to make some foolish mistakes. The only legitimate argument along that line would be that the evolution of money so far has been towards the more valuable metal, so that when England, or any nation, goes over to a gold standard, they have in that respect adopted a more valuable metal. But it depends entirely upon the kind of trade which the nation does whether the cheaper metal or the dearer metal is the best thing for them to have, and it does not depend at all upon any idea they may have that one particular metal is, for some mysterious natural reason, the best and the only metal to use.

There have been a great many other points of discussion upon the theory of money in this century. They may be grouped as, fourth, theories of bank-note currency, and, fifth, theories of irredeemable paper money. Some of these will be taken up specifically in later lectures. I wish simply to impress upon your minds this evening that these theories and these disputes all revolve around the one fundamental idea, the value of money. Is money a commodity which must have a value in itself, apart from its use as money, or is money simply a ticket that shall transfer to us the value of one commodity over to what-

ever other commodity we want, or is it a combination of these two ideas? What is the thing which gives money value? That is the key-note to all of these discussions, from seigniorage down. If we keep that clearly in mind it will save a good deal of confusion.

We might from that fact suggest a possible development of money in the future, as to whether, beginning with a commodity used as money, which thus transfers one commodity over to us in exchange for another commodity,—passing on to a paper money, a credit-money, for instance, which is based upon money, which represents money, which is the condition in which we are to-day,—we may not eventually work over to another condition where we may have a system of transferring commodities over as against other commodities without the use of money at all. That is a problem which people are working on. It is a problem, solutions to which have been proposed, but it is one to which, as yet, there has been no practicable solution proposed. A practicable solution of that problem would be the greatest invention of the age.

*Questions to the class to answer during the ensuing week :*

1. State and discuss the chief monetary ideas of the Mercantilists. What similar ideas survive in this century?
2. What is the nature of interest? Is it paid on money or on capital?
3. What are some of the most important unsettled questions in monetary theories to-day?

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#### DISCUSSION FOLLOWING LECTURE VII.

MR. SHERWOOD.—In the papers of last week there were a few questions which I would like to answer now.

One was as to whether the trade dollar had a legal-tender



quality. By the law of 1873 the trade dollar was made a limited legal tender up to five dollars. The legal-tender quality was taken away by a joint resolution of Congress of July 22, 1876.

There was another question as to whether the Bank of England notes were not practically based on government security like the national bank notes. In regard to that I would say that there are practically two periods in the history of the bank,—before the Bank Charter Act of 1844, and after that act.

Before the year 1844 the bank capital grew to fourteen million pounds and more; the loan to the government grew to about eleven million pounds, and the bank issued its notes, even beyond its capital at certain times, so that its notes were not wholly covered by the government indebtedness.

The Bank Charter Act of 1844 separating the two departments, laid upon the issue department the restriction of issuing notes only upon the deposit of government securities or of coin. The limit of securities which could be received, or notes which could be issued upon government securities, was placed at fourteen million pounds, which, however, has been increased since then by two millions or more, from the Bank of England taking up the dead circulation of country banks that have gone out of existence. Since the Act of 1844, therefore, the notes of the Bank of England are secured by deposit of government securities or else by coin. There is no limit to the whole amount of notes which the bank may issue. The Bank of England notes are quite as secure as ours, because there are only about sixteen millions of notes based upon securities, the rest being like certificates for coin. As to this sixteen million, probably there is that amount usually outstanding required in the business of the country and not at all likely to come in for redemption.

There was another question as to whether the Bank of England was obliged to keep a certain reserve. There is no legal compulsion upon the bank to keep a reserve; it lies in the discretion of the directors.

A GENTLEMAN.—Isn't the amount of government indebtedness to the bank fifteen million pounds,—seventy-five million dollars,—or about that?

MR. S.—Unless it has been lately increased, it is only about eleven millions.

FIRST GENTLEMAN.—About three millions were issued in 1844, I think, making it about fifteen million pounds, and the circulation of the bank now is about one hundred and twenty-five millions,—the note circulation.

A LADY.—Is there a deposit of bullion for every note issued in excess of the fifteen or sixteen millions of securities?

MR. S.—That is the law.

FIRST LADY.—Well, what is the fact, please?

MR. S.—The fact is the same, so far as I can get information.

FIRST LADY.—Well, then, I have noticed a statement where a writer, in speaking of the needless alarm that some people felt because of the charter of 1844 separating the bank of issue from the bank of deposit, that some people asserted that there might even be a failure when there was as much as eight million pounds of gold or silver in the bank, which seems to me to give it the appearance that there must be a great deal of really inconvertible paper.

MR. S.—But the bank, of course, has other liabilities besides its notes.

FIRST GENTLEMAN.—Would it not be well to mention that the Bank of England three times since 1844 has been upon the verge of suspension,—in 1847, 1857, and 1860,—and that only by receiving aid from the government it in a measure tided over? It may be remembered that in 1847 and 1857 we had hard times in this country, which many people attributed to the tariff exclusively, but at the same time with England under a low tariff, and having every opportunity to send her products to this country and sell them at a large profit, the Bank of England in 1847 and 1857 very nearly came to suspension.

SECOND GENTLEMAN.—Is not the power lodged somewhere—

with the Chancellor of the Exchequer or elsewhere—to suspend the law restricting the circulation to bullion or coin deposits, in case of emergencies or in case of panic? Has not this power been exercised by which the bank is allowed to issue in excess of the coin deposits? Whether it is on other securities or not I do not know, but I think that power is lodged somewhere within the administration of the English government.

MR. S.—Yes. The bank has gone several times, notably in the crisis of 1857, to the Chancellor of the Exchequer for permission to suspend the provision which limited the uncovered circulation, and the government has replied that if they went ahead and issued in excess of that limitation, the government would endeavor, should the bank be proceeded against in Parliament, to have it held free from blame. It virtually is a permission to them to suspend the act, but in form it is simply that the government promises its aid in Parliament to defend them for the breach of the law.

SECOND GENTLEMAN.—Then those extra issues were made upon commercial bills.

MR. S.—In 1857 they were made upon the deposit of government securities. They deposited securities for the notes. It was an extra-legal increase of uncovered issue.

FIRST GENTLEMAN.—Was there not a suspension of specie payments by the Bank of England up to 1821?

MR. S.—Yes; from 1797 to 1821; but that was before the new law. In the papers that were handed in are some matters which I would like to speak of. One of the papers, in comparing our State Bank system with the National Bank system, put very well, I think, the fundamental idea of the progress achieved in coming over from the State Bank to the National Bank system. Without giving the exact words, this is the idea: that in standard coin the value-substance is identified with the token; in credit-money, on the other hand, the value-substance is separated from the token. For instance, in a token coin there is only partial value-

substance, and the rest is a ticket, a title to something promised ; in paper money, which rests upon a promise of redemption in coin, there the value-substance is separated entirely. The further idea follows that in order to make such a currency secure you must have a sufficient guarantee for its redemption, and of course the difference between the State banks and the national banks in that was, that the State banks did not make sufficient provision to keep the money-substance obtainable for the credit token, while the National Bank system did away with that defect. Another paper advocated quite strongly the old free banking system of unlimited issues. That particular system, it seems to me, worked very badly. Whether such a system could ever be made practicable is a question for debate, of course.

In taking up these theories here I am rather at a disadvantage. While we have been learning together some things in regard to the history of money and of the development that it has gone through, I have learned myself quite a number of things about the audience. I find that there are a great many theorists of different kinds in the audience. I have learned, for instance, from the trend of remarks, that we have probably a good many gold monometallists ; I do not know whether we have any free silver men or not. We have one theory of money based on mortgages, we have another theory of money based upon commodities in general, and I think we have a greenback theory, and then we have theories that look towards socialism as the remedy for the evils of our money system. I am supposed to be perfectly conversant with the arguments for and against them all, and to be able to harmonize these different theories, or at least to refute all the errors in them and to present the only true theory. I hope, therefore, that in pushing forward your different ideas you will remember that my task is a difficult one, and that capacity of mind is limited, even in a person who poses as a specialist. Do not, then, make your theories too deep for me.



THIRD GENTLEMAN.—Did I understand you to say that the Hume idea,—namely, that the willingness of the borrower to pay interest on money loans is due to the fact that with the money he can buy capital, and capital brings interest, or brings property,—that that is now the prevailing theory?

MR. S.—Yes; that is the prevailing theory in regard to interest transactions generally. But I would say that money itself is often the object of the loan for its own sake. For instance, take a stringent money-market, when there is a great desire to get legal-tender money for the purpose of paying debts, and to get it within a certain time, then money may itself, for its own sake, become the object of the loan. In the greater part of borrowing transactions, however, what the man wants is not money, it is the materials which he must use in his business, and he borrows the money or the credit, as the case may be, for the sake of getting those materials.

THIRD GENTLEMAN.—According to that there are two different theories of the interest on money.

MR. S.—Yes; there are two kinds of interest, you might say; and the theory of interest, accordingly, takes two forms.

THIRD GENTLEMAN.—Well, now, is that view, that the interest is paid on account of the borrower being able to buy capital and use profit-bearing capital, the economic view, or is it merely a practical view? Is that an erroneous view or is it the accepted economic view?

MR. S.—I should say that is the view which is held by most economists.

THIRD GENTLEMAN.—Well, then, if it is, I would like to ask a question in relation to it. In your syllabus there is one work mentioned, that of Böhm-Bawerk, who, in his first volume, criticises various theories on interest, on capital interest, capital profit. The first theory which he criticises is that of Turgot. Turgot says that interest accrues to capital because men who want to invest may either invest in land or may invest in capital.

Investing in land they know they can get rent, therefore they would not invest in capital unless they could also get a profit from capital, and for this reason interest accrues to capital. Now, Professor Böhm-Bawerk refutes that theory of interest by accusing Turgot of confounding the result with the cause. He says that capital and land are interchangeable, because both have inherent the power of bringing an income, whatever may be the cause of that power. Therefore Turgot makes the mistake of referring the profit-bringing power of capital to the exchange capacity, to the power of being exchangeable for land. Böhm-Bawerk says that the result is taken for the cause, and he says we must find the cause for capital interest in an inherent power in capital. Now, what I should like to ask is this, whether this identical argument is not a refutation of the Hume proposition,—namely, that the exchangeability between money and capital cannot be brought economically as the cause of the willingness of borrowers to pay interest for money, and the interest-bearing power of money. Should we not equally reason with Professor Böhm-Bawerk that money and capital are interchangeable because both have the property inherent in them to bring a profit? Is not the exchangeability a result and not a cause?

MR. S.—I do not think your analogy holds good. But in regard to it I should say that the office of money, as a productive agency, is simply as a means of getting something else. If by means of money we get the thing that we want in order to carry on production, it seems to me that we are not paying interest for the means to get the article, but we are paying interest for the article itself that we do get.

THIRD GENTLEMAN.—Well, if that is a fact, that money in itself is barren and that capital is that which brings the interest, why is it that the producers of capital, which brings the interest, are so anxious to get money for it, trying to sell it for that which is barren? Surely, if I had a goose that laid golden eggs I

would not be anxious to exchange it for a common goose. Why is it that the producers of capital, who, in capital, have that which brings profit, are so anxious to get for it money, which has not that peculiar power?

MR. S.—There is a great advantage in being able to reserve one's decision, and that is what money does: it enables the man who gets it to reserve his decision as to what particular article he shall give it for. That, I take it,—because it is a universal purchasing power and you can buy any article in the market with it,—is why people would take their profits in the shape of money.

FIRST LADY.—Is not interest the price paid for opportunities? And opportunities being controlled, people are obliged to pay the price, and money simply serves its purpose in its utility value, and money, of course, is controlled,—the production of money is a monopoly; therefore a price is paid for it.

MR. S.—If you carry that argument logically out you attack the idea of private property, which lies aside from our discussion. If you allow private property in anything, why, you allow private property in capital. Now, if you allow private property in that piece of capital which, we will say, does aid production, you certainly allow the owner of it to have it used in a productive way, so that he becomes, by the loan of that capital to the producer, a partner of the producer in the business. If you do not allow him to take his share of the profit, it seems to me the only logical outcome of that argument is to abolish private property in capital.

FIRST LADY.—I was not referring to capital; I was referring to money. You have told us heretofore of our credit system having a spiritual basis. Will you please define what you mean by that in reference to the credit system?

MR. S.—I mean by that, that there is a certain amount of confidence of man in man involved in the use of the credit system. It is not altogether a system of having the hard cash in your

hand. It is partly a system of mutual confidence of men in men, and to that extent it is what we call spiritual.

FIRST LADY.—Well, do you include, as evidence of the spiritual basis of banks, the fact that with their immense rest funds and their large dividends the census bulletin of the real estate mortgages show that the interest on the debt of five States in this Union is sixty-eight millions of dollars? Is that an evidence of the spiritual basis of our bank and credit system?

MR. S.—Well, if the banks do a large service to the community and we allow private property in the profits of service, it is perfectly right that the banks should have the profits for the service which they perform.

FIRST LADY.—If the banks do a large service for the community, what is the service that the community does for the banks?

MR. S.—If you look at it in one sense, banks, just like other machinery of our commerce, are an expense borne by the community; looked at from the other side, they are a machinery without which the community could not accomplish what they do.

FIRST LADY.—The community certainly pays most dearly for all the services that the banks render. I would like to ask another question. Are not the national securities upon which the banks issue based upon the productive power of consumable commodities—the nation's power to produce consumable commodities—and not on money?

MR. S.—So far as the government securities are the basis, yes: it rests upon the productive power of the country.

FIRST LADY.—Well, then, the banks take the national credit and make a gain by transferring this national credit to the individual. It is not the bank's credit at all, as I understand it. It is the national credit that the bank takes and transfers to the individual and charges the individual a very large sum for.

MR. S.—Well, so far as that is concerned, our railroads have the benefit of the national laws. They are organized under



national and State laws, and they charge very large sums. Of course, in all these questions, you may go down to the bottom of them and argue fundamental principles as to whether the people should act as a social whole or whether they should act on an individualistic basis. If the people as a whole find practically, or think they find, that they get better results by allowing certain individuals to do certain things, instead of trying to do everything themselves as a body, why, that settles the matter so far as that is concerned. If you allow property to the individual and allow the individual the right to engage in these different trade transactions, the rest follows as a matter of course, and the only way that you can treat the matter, it seems to me, is to lop off the evils so far as possible.

FIRST LADY.—Well, mustn't we make a distinction between private property and monopolistic privileges?

MR. S.—Yes; in many instances.

FOURTH GENTLEMAN.—Will you allow me to ask a question there? Are not the banks a part of the community, and is there any monopoly at present in the national laws in regard to banks? Are not any individuals at liberty in our country to-day, if they have the capital and wish to do it, to organize a national bank, or a private bank, or a State bank? Where is the prohibition, and where is the monopoly?

MR. S.—Well, there is a government monopoly in the National Bank system so far as note-issues are concerned.

FOURTH GENTLEMAN.—Right there I would say that under the existing laws nearly all the national banks have been desirous for years past of curtailing their circulation to the lowest possible legal point, and to-day it is only about one-fifth or one-sixth of the legal amount. National banks do not make money, as a general thing, from their note-issues; they do not care for the circulation, and throughout the country they have reduced their circulation to the lowest legal point.

FIFTH GENTLEMAN.—I would say that I am perfectly willing

to take any ridicule or anything else that may apply to any one who advocates the scheme which was presented by Senator Stanford in the Senate to-day. I do not agree with him in the details, but in the essence I am in full accord with him. I want to ask a concrete question in connection with the origin of interest. Suppose that a manufacturer has a thirty-thousand-dollar building and he is able to go with that building to the government and obtain a loan of ten thousand dollars, depositing a mortgage on the building. He could take his ten thousand dollars and buy machinery with it, and of course enough must be charged to the consumer, for the goods sold as the product of that machinery, to cover wear and tear on the machinery and to cover interest. I beg your pardon, I intended to put the question differently: Suppose that he goes to a capitalist first and borrows the ten thousand dollars on his thirty-thousand-dollar building, from some capitalist or some company which lends him the money, and he puts it into machinery. Now, the consumer of his goods necessarily pays to him an amount equal to the interest that he has to pay to the capitalist, plus the wear and tear on the machines, and plus the wages of himself and his employés, for he is only the superintendent of his employés under these circumstances, assuming the ten thousand dollars to be all he has in the machinery. Now, suppose that under the system I have in mind he goes to the government and obtains that same loan, practically without interest,—a mere fraction of one per cent. will cover the expenses of the bureau and the insurance. Now, others do the same thing; his competitors necessarily are trying to get his trade. Will not the inevitable result be that, no interest having to be paid, it will be similar to the royalty on an invention as soon as the patent limitation expires? That immediately profits will be cut down,—that is, the price of the goods which he sells will be cut down to a point where they will eliminate the interest which he simply took from the consumer and paid over to the capitalist. It will

eliminate it by the natural means of competition in a very short period, just as the price of a patented article will fall after the termination of the monopoly. Is not the present system merely a monopoly of the capitalistic class, as a class, over the laboring class, as a class? Is not this interest a tribute from labor to capital?

MR. S.—Well, that may be a concrete question, but there is too much concreteness in it for me to deal with now. I shall have to answer that privately, when we have more time.

## LECTURE VIII.

### VALUE AND DISTRIBUTION OF MONEY—RELATION OF THE QUANTITY OF MONEY TO NATIONAL PROSPERITY.

LADIES AND GENTLEMEN,—The subject which we have to consider to-night is so complicated that it is hard even to state the forces which affect its problems. It has at the basis of it the fundamental question of value, the most difficult question in political economy, and one by no means settled, in spite of all that has been written upon it from the beginning of economic discussion. It is true that some forty or fifty years ago John Stuart Mill wrote that there was nothing more to be said upon the laws of value. It is also true that in the last fifteen or twenty years, and more particularly within the last five years, there is no question in political economy which has received so much attention, and which is so much a matter of dispute, as these same laws of value.

Now, we have to consider the laws of value to-night in reference to a certain commodity. The difficulty of the fundamental question is not rendered any the less great because we have a specific commodity to deal with. Therefore I beg that in what I shall say you will remember the limitations to which I am subject, the essential difficulty of the question, the fact that it is a question much disputed, and one which has given rise to several schools of thought. I cannot go over with you all the theories of value; but it shall be my aim to state what seems to me the clearest and the most workable law of value which has yet been given form. By this I do not mean that the end has been reached, nor that my own opinion upon the subject is fully formed, but only that I have taken this law as the best working theory for the present.



In beginning I wish to state some of the difficulties in handling this question that we find upon the very surface. In the first place, it is evident from exchange as it is carried on that we have more than one kind of money to deal with, and this brings a complication at once into the problem.

It is evident, also, that the material which is used as the basis of the circulation is a commodity which has other uses than its money use, and that therefore, in determining the value of money, we have to reckon with the value of a commodity used in other arts and processes of our commercial life.

Another fact is evident also, which makes this problem more intricate, that a part of the money itself is hoarded and kept out of circulation.

Again, it is evident that of the money which is in circulation, certain parts of it do more work than other parts; in other words, one coin may perform fifty exchanges while another coin performs only one, and this makes another complication.

There is another fact of vaster and more radical significance. If we look at the commercial structure of different nations, we see that society, as a whole, is honey-combed with small local markets. In each of these little trade centres quite an extensive trade is carried on, which is virtually unaffected by the exchanges in any other part of the country. This is a factor in our commercial life which, in spite of the growing perfection of the means of exchange, has never been eliminated. All the way from these smallest local markets where local demand and local supply meet, comparatively untouched by the press of the outside commercial world, up to the great world-market, in which some few commodities find exchange, there is a gradation of markets or centres of trade of varying size, of varying importance, overlapping each other in hopeless intricacy. Here is introduced another element which endlessly complicates the problem. For instance, the money which serves as the usual basis for exchanges in one centre perhaps does not go out into other

centres, and thus liberates, so far as it does this local work, another kind of money which is used in the larger market.

Also, in these small centres direct barter is carried on. We have seen that to quite an extent in farming communities barter is prevalent to-day. This all further complicates the problem, because, so far as barter or a local medium of exchange relieves money which is universal in its operation from the necessity of doing that local work, to that extent the demand for the universal money is diminished and therefore its value is lowered.

We get still deeper into the difficulty of this value problem when we take into consideration not merely the local constitution of society, but the varying characteristics of people themselves. In all trade there is a choice of the means which shall be used to effect the necessary exchanges. We may use barter if barter is practicable; we may use metallic money if we have it; we may go further still and use a system of credit-money or a system of credit which balances off one account against another, and is but another and a more complicated form of barter. The fact that people have this choice shows, on a moment's reflection, that if money is made too costly to use as a medium, people will stop its use to a certain extent and will go back to the barter system if they lack the spirit of progress, or, if they have the genius for it, will go forward to a credit system. The actual historical growth has been towards the use of representative money and of organized credit.

In other words, men are not confined in such circumstances to any one expedient, but if they are driven to that point where the money supply is insufficient to do the work, they adopt some other means. For instance, the English found, before the establishment of the Bank of England, that the money supply in the country was insufficient to carry on their commerce. If they had not invented some means of getting a paper money which would supply the need, and an extension of credit which

would also help to supply the need, their trade would have been very seriously curtailed, and England would probably be far behind in the rivalry of nations to-day. In their choice of means to overcome this difficulty the English showed their national characteristics. The credit system of the English and the French custom of hoarding cash have alike profound influence upon the value of the money unit in those countries.

There is with the growth and development of society a need for a progressive system of exchange which shall grow relatively less costly. But cheapness must not be purchased by a stunted growth.

If we picture the exchanges of our modern life, we see that by barter, by payment in kind, by the book-credit system, by checks and every form of credit-paper and oral credit, and by representative money, we have done away to a great extent with the need of a metallic circulation, so that in the system that has grown up in the great commercial nations there is little left for coin to do, as one writer has stated, except to carry on the retail exchanges, the small every-day business of life. Transactions beyond that are done mainly by the use of credit in some form, yet the credit system rests, of course, upon the basis of money and is measured by it.

Let us think of the simplest condition and try to judge of that: a country which has, say, silver mines, no foreign trade, and no money but silver. Is there any way in which we can estimate the value of money there? Silver has other uses than its money use. Looking at the historical origin of silver money, or any metallic money, we find that the money use is something which grows out of its commodity use, and that the use of money is in that respect a double barter,—barter of goods first for money, and then barter of money for other goods. Now, conceive the business to be done by money in that country remaining stationary; an increase in the supply of silver in that country would clearly work upon the value of silver just as an

increase in the supply of any commodity lowers the value of the commodity, the demand remaining the same.

The value of silver, then, would go down in that country. But would the value of silver in general go down, or would only the commodity value of silver go down, or would only the money value of silver go down? It seems to me that there is no doubt that, in the case which I have mentioned, the value of silver for every use would be lowered by this increase in the amount of silver.

This is only a concrete way of stating that the law of the value of money is like other commodities,—the law of demand and supply. In making the application to money we have the difficulty which I have mentioned before, that the money commodity has these two uses, as a commodity and as money, and the problem is how to separate these two uses from each other so that we can determine the value of the money part. If we can determine that, then we also have the key to the question whether government can add value to money or take value from money.

Leaving this simple condition, suppose, now, that, after settling the law of the value of money,—the law of demand and supply,—and after settling satisfactorily what is the demand for money and what is the supply of money, we conceive a gold circulation added to the money of the country. This brings in the question of the double standard and how one shall be related to the other, a confusing idea in regard to the value of money.

Add next a paper circulation. This introduces another confusing idea, and if we add to that the question which foreign trade introduces, the necessary foreign payments, here we have another complication.

The question arises, Does this law of demand and supply apply to a mixed gold and silver money and to a paper money as well as to a simple gold money or a simple silver money?



Again, suppose that the country had worked out the theory already mentioned, of having a money which is not a commodity at all, but merely a ticket representing the labor which is used in the production of the article; so that after a year's production, after bringing the articles into warehouses and estimating their value, a certain number of tickets are issued representing the amount of labor which was embodied in these commodities, and these tickets are given to the persons entitled to the commodities. No matter about the details of the scheme; the idea is of a money which represents the value embodied in articles, not through the workings of trade, but by the direct and conscious act of the people through their government.

In this case, does the law of demand and supply apply to such a money? Suppose that at first there were a million of these tickets issued for a given amount of production, and then, after these had been put into circulation, suppose that for that same amount of production an additional half million were issued, you will see that in the second case the value of each ticket would be less. On the theory of pure ticket money the law of demand and supply clearly holds. And in the case of a mixed currency, whether of two metals or of coin and paper, it seems to me evident that we can apply the general law of demand and supply. In such a currency there is a standard in terms of which the other moneys are rated. Given the ratio between the different kinds of currency, the law of demand and supply still holds as determining the value.

A difficulty comes at this point, what is the demand for money, and what is the supply of money? It will be easily seen that since there is a certain amount of exchanging to be done in any country at any given time, and since the use of money as a medium of exchange is common in that country, that there will be an ideal amount of money which would best effect those exchanges.

What are the elements in the demand? Other things being

equal, if the population of that country increased, would not that fact increase the demand for money? And if a money was desired which should do the work equally well with the work done before, would not an increased supply of money be needed? Increase of population is one element in an increase of demand for money.

An increase in production likewise demands more money. An increased number of people going into productive enterprises or an increased production of commodities likewise necessitate more money. Commercial progress, industrial progress, everything that makes for an increase of commerce, other things being equal, demands more money; and therefore, when we find that in the last year, as appears by the last report of the Director of the Mint, there has been added to the circulation of the United States, in one form or another, some sixty-five millions of dollars, we find in that simply an evidence that, to some extent at least, the monetary circulation of this country is keeping pace with the progress in population, with the progress in industry, in production, and in commerce.

Again, what are the elements in the supply of money? Take the United States. Our increase in the production of silver is an element that tends, under the present law, and under free coinage still more, to increase the amount of money in circulation. We find also that government sometimes increases the supply of money. Government will put out more paper money, or government will add some new quality to money, or rather will add the money quality to some new material, which in that way adds to the supply of money. For instance, if the government should take platinum and make money of it, it would increase to that extent the supply of money. These matters, of course, are evident upon their simple statement.

Another fact before alluded to which tends to increase the supply of money is, that money instead of performing one exchange in a certain time may perform half a dozen. An

increased rapidity of circulation, as the phrase is, also increases the supply of money.

Having these ideas clearly before us, then, of the elements in the demand and the elements in the supply of money, we are ready, I think, to take up the question, What effect can government or law have upon the value of money? This is a much-debated point. We hear people say every day that the law can have no effect whatever upon the value of money,—that government cannot make value, cannot create value. We hear it just as stoutly argued on the other side that government can take a piece of paper and give it the same value that gold has. Now, what is the real truth in regard to this question?

It seems to me that the facts of the case plainly show beyond any doubt that law can add to the value of money or can take away from the value of money. Ten silver dollars in the United States to-day will buy as much as one gold eagle, and the effective reason why ten silver dollars do that is that the government says that they shall. Now, how does the government influence the value of money? Government influences the value of money just as any other person or body of persons would influence the value of money. They do it not by a creative act of the government, making something which did not before exist; they do it only by acting upon the laws of value in money.

The reason why every increase in population is, to a certain extent, an increase in the value of money is because it increases the demand for money. If a government similarly increases the *demand* for money in some way, it adds to the value of money, other things being equal, if the supply is not proportionately increased. Again, if the government cuts off part of the demand for money, the government, to that extent, decreases the value of money. On the other hand, the government, by increasing or decreasing the *supply* of money, can change the value of money. What an individual can do in this respect the government can

do in a vastly more powerful and effective way. It is not attributing any impossible or omnipotent power to the government to say that, by its laws, it has power to add to the demand for money and so increase its value, or to add to the supply of money and so decrease its value.

There are limits—usually strict limits—placed upon this power of the government. Commerce, for instance, is not national, but international, and how far can one government influence the value of a money whose value is really fixed by the commerce of the world? That is the problem which has been before us in the silver question. So long as trade is international and so long as one people must pay balances owed to another people by some commodity or by some money which is acceptable to that other people, and so long as gold and silver, for instance, remain practically the only commodities which are generally acceptable in the settlement of those balances, so long it is a very difficult matter for any one nation to affect very materially the general value of the money material.

The United States silver dollar will not purchase a dollar's worth of other things in any other country than the United States. This is one most important limit to the power of the government. The value which a government can give to a money is a value limited at least by the boundaries of the country over which that government has sway. This value which the law makes cannot be exported, it must be used at home. But so long as the people of the country will obey the law and allow this government command to take effect, so long this value which is made by law will be effective in that country. That is the extent to which I should say government can make the value.

Now, if we go back to our isolated country, with its supply of silver or of gold, and find that country coming out into the circle of the world's exchanges, the question is, How does this silver money get distributed over the earth? Suppose that the



other countries do not have mines of silver. The best statement which we can make within the limits of our time is, I think, substantially that which is made in the syllabus, that it is done chiefly through the agency of price. Price is simply a statement in terms of money of what the value of a commodity is. The commodity is worth so much money. Price always has reference to money. Begin at the mines where the silver is mined. Let us trace the movements of price. The miners must have other things to use. Silver becomes the commodity which they will give in exchange for those other things, and silver prices become higher at the mines than anywhere else. Commodities flow to the mines. Silver is given in exchange and spreads wider and wider from the mines. There is no difference in that respect between one country and another country, and between a part of one country and another part of the same country. All that international exchange means in this respect is a commerce which goes beyond the local market. But take the ordinary case of trade between different nations. If we have commercial dealings with another nation, they wanting silver for the same purposes that we do, in the course of trade a part of it will be sent there, for there will be a demand by the foreign country which will make it profitable to send the silver over there in preference to other commodities. Or if they have a silver circulation and we have more silver in proportion than they have, so that our prices are higher than prices over there, then there will still be a demand for the surplus of silver which we have, which will carry it over in the payment of our balances to the other country, until there is a sort of equilibrium struck between the two countries. There is a universal demand for these commodities, gold and silver, and obeying that demand, which may also be said to be a command, they flow to every part of the world which has a silver circulation, and thus silver gets distributed throughout the world, so that in our great commercial dealings to-day we find that gold and silver have a world

value. Not that silver has exactly the same value in every part of the world, but that throughout all parts of the world which have mutual commercial dealings the tendency is for silver to have an equilibrium of value; the same is true of gold. This gives the key to the bullion export and import which goes on continually, the precious metals, either as bullion or coin, flowing from one country to others and then back again.

Taking up another question, let us see if we can find out any relation between the quantity of money that a country has and the prosperity of that country. I was looking in the report of the Director of the Mint this afternoon, and found there an estimate of the amount of money in circulation in this country, in Great Britain, in Germany, and in France. The total figures I do not remember; the per capita figures I have nearly correct. In Germany and in Great Britain the per capita circulation of money is estimated to be eighteen dollars; in the United States, twenty-five dollars; in France, forty-three dollars.

That is a slender fact, of course, upon which to base any generalization about the commercial prosperity of these different people. England has eighteen dollars per capita; Germany has eighteen dollars per capita; but no one would be willing to say that, based upon that fact alone, the prosperity of England was exactly equal to the prosperity of Germany. No one would say that the prosperity of France with her forty-three dollars per capita was over twice as great as that of England or Germany. And no one would say that the United States, because they have twenty-five dollars per capita, while France has forty-three, was on that account necessarily less prosperous than France.

But it is an argument which we often hear, that the United States ought to have forty-three dollars for every person because France does. One very clear and superficial fact, however, shows a reason for the difference,—the fact already mentioned several times, that in this country we use the banking system much more extensively than they do in France. In fact, it will be

found, on investigating the habits of different peoples, that there is a kind of standard of monetary circulation which each nation has for itself. We speak in political economy of the standard of living that different classes of people have; as the standard of life of the miners, or of the farmers, or of the professional men. There is something analogous to that, it seems to me, in reference to the monetary circulation of a country; each nation has its standard. The habits of the people and the laws of the country in which the people acquiesce create a standard of circulation as of other things, and a country with a low per capita monetary circulation may be just as prosperous as a country with a high per capita circulation.

If we were to try to estimate the amount of money which a nation needed we should find the attempt perfectly useless, however many facts about the nation we might know. We could only make a general statement in regard to it, a statement so general that it would be of no value whatever. But upon this subject there are always two different schools of thought, two different theories, one party always seeking to have more money, the other party always seeking to have less money. Between the two the country gets on with a certain amount.

The arguments advanced upon the one side and the other often contain a great deal of bad reasoning, and you can readily see that it is very difficult for different people to come to any agreement upon the matter as to whether there should be more or should be less.

I am not going to lay down any criterion to-night, because I do not know any by which we can gauge the amount of money that a nation needs. There is no infallible test of excess or deficiency. We can say that at certain times a nation seems to have too little money to carry on its trade, and at certain other times we can say that it seems to have too much; but as to where to draw the line, I have never seen any good general rule.

I will take up some of these arguments at random (syllabus, page 388). Here is one: "The more money a nation has, the more wealth." That is an argument we have already touched upon, for that is the Mercantilist doctrine. It reminds me of the maxim that an old farmer once gave me who had fought his way through life on the frontier. He said that he made it a policy of his work and his life to sell everything and to buy nothing, and working on that policy he had managed to get together quite a goodly sum of wealth. That is, in an individual case, precisely the argument of the Mercantilists. It is an argument that has a good deal to say for it on both sides, but in its simplicity it cannot be held that the more money a nation has, the more wealth. One needs to know much more about the nation before one can say that. The having more money may mean that the nation has less of other forms of wealth.

Take again such an argument as this: that the enterprising class in a country, the producers, are the borrowing class, and that if the amount of money is increased it becomes easier for them to pay their debts and thus encourages this class. Now, what effect upon a country does an increase in the supply of money have? We find that often a great increase of commercial prosperity and enterprise coincides with an increase in the volume of money. We have found historical instances of that. One was since the gold discoveries in this century, and another was the instance that we have mentioned two or three hundred years back, after the silver mines were discovered in Mexico and South America. Now, which is the cause and which is the effect there, or is there no relation?

There is one thing that we need to consider in discussing a question like this, and that is the necessary period of production. Some things can be produced in a day and consumed in a day. Other things require years for production and require a large accumulation of capital, so that the demand must be carried over a number of years before it receives the supply. An in-



dustry like that cannot be carried on in the early stages of society. It can only be carried on when the commercial machinery is organized, developed, and refined as we have it in our industrial life to-day, and in such a case as that a man who makes contracts now may have several years before he has to meet them. If, in the mean time, the amount of money in the country has been increased more than the real demand for money, you will see that, these contracts being made payable in money, it is easier for him to get the money to pay his debts with when the time comes. Now, is that an advantage to the country, to encourage this particular class of production? That is a question which cannot be decided by any general rule. You can only say that there might be circumstances when such would be the case, and again, there might be circumstances when it would not be the case.

Likewise with a great many of these arguments, while they gain force and plausibility from the fact that often, under certain circumstances, they are practical, yet in truth under other circumstances they are not; and I do not think that we have yet reached the solution of the question as to when it is advantageous to increase the supply of money and when it is advantageous to diminish the supply of money in a country. The ideal that we want, so far as price adjustment is concerned, is to keep prices stable, so that a contract which is payable in one year from now can be paid with just the amount of commodities which will then represent the value stated in the contract of to-day.

That is what we want,—a stability of prices that persists from one year to another and from one generation to another. Many contracts are made payable perpetually, or practically so, as long leases. The object at which we aim is, as it seems to me, a currency which shall keep prices stable, a currency which shall expand, therefore, with the expansion of trade and commerce and development generally, a currency which shall not be lagging behind the commerce and the development of the country

and hindering that development, and a currency which shall not, by being too rapidly increased, lead to excessive speculation and to loss.

We shall take up in another lecture the question of how far a rapid increase in the monetary circulation will affect the harmony between production and consumption; how far, in other words, an industrial crisis may be due to a change in the amount of money; but I do not see how we can reach in this matter any conclusion other than some general statements such as those contained in the syllabus (pages 388, 389). It is a practical problem which we must meet every one or two years. We may meet it in one of two ways,—either we must leave it to what we call natural laws of trade, or else we must take hold of the problem consciously by governmental action and try to work out in that way a system of currency which shall expand and contract with the fluctuating needs of trade.

I had expected to take up in a few words a plan of that sort which has been proposed, but I will not do so now; the hour has expired.

*Questions to the class to answer during the ensuing week:*

1. Give the causes of the flow of bullion and coin from country to country.
  2. To what extent can government affect the value of money?
  3. Is a large per capita money circulation necessary to national prosperity?
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#### DISCUSSION FOLLOWING LECTURE VIII.

A GENTLEMAN.—Professor, I think there is some little mistake about your per capita expression. We have about two thousand millions of circulation and sixty millions of people. Divide two thousand millions of dollars by sixty and it would give thirty-three dollars per head.

MR. S.—I took the figures from the report of the Director of the Mint. I did not make the circulation.

FIRST GENTLEMAN.—In “The History of the Mint” there are two tables, one for the paper circulation and the other for the gold and silver, and I think you must have got the wrong one.

MR. S.—This statement that I saw is said to include the gold and silver and the paper also.

FIRST GENTLEMAN.—Well, it is certainly a mistake. We now have about two thousand millions of circulation in this country.

MR. S.—Now that you speak of it, I remember a discrepancy which I noticed there as to the total amount of money in the country. One table stated that there were about one thousand millions of paper circulation and about one thousand millions of gold and silver circulation, and then in another table which professed to include the paper there were only about seventeen hundred millions given as the total, making a difference of some three hundred millions. There may be some one item there which my examination failed to discover, but whether the figure for the United States be twenty-five or thirty-three does not practically alter the case.

FIRST GENTLEMAN.—The circulation in France is very much larger than it is in this country, and I think in a great measure it may be due to the fact that the French people are in the habit of hoarding money a great deal, and hence they may not have an apparent circulation any greater than we have here; but the population of France is a great deal less than ours, and they have a very large amount of paper in circulation. They have about forty dollars per head. You see their population now is thirty-seven millions and the area of the country is very limited in comparison with the United States. For instance, France has sixty-one thousand less square miles in it than the State of Texas,—sixty-one thousand square miles less,—and you can see how small a part of this country Texas is.

MR. S.—What relation would you say that the area of the country had to the efficiency of the supply of money?

FIRST GENTLEMAN.—I think a sparsely-settled country like this needs more money than a closely-settled one, because money stays longer in the pockets of the people, out of circulation. It is on the theory that less money is required in a city like Philadelphia or New York, where so much business is done through the banks. It has been shown repeatedly in the New York Clearing-House that for one hundred millions of business passing through that clearing-house only four millions are required to settle the balances. I never saw any statement in regard to the average in this city. In the cities men doing business do not carry much money in their pockets, but draw checks, which answer the purpose as well, and are also receipts for the payment. But if you go thirty or forty miles into the country you must take money with you, unless you are very well acquainted with the individual you are going to trade with, or unless you know the people will place a great deal of confidence in strangers, which, as a rule, country people do not. In a country like ours, where we have long lines of travel and transportation,—many thousands of miles of railroad, in addition to river and lake transportation,—we need a great deal more money in proportion than a country of limited area like France, and the reason they need so much more money there must be because the people have a disposition to hoard it. I think if the policy of our government were to put out more silver—and it can do it—instead of issuing so much paper, it could pay its contracts and it could pay the pensioners one hundred and fifty millions a year, and I think our silver dollars are plenty good enough for them. If there is any ex-soldier or any pensioner here (I have a great deal of respect for the men who fought for our country), I want them to have patriotism enough to take the legal money of this country,—our dollar. People call it a seventy-cent dollar, but you can make your own



calculation of what it has cost since 1878; from year to year you will see that our silver dollars have cost us about eighty-nine cents each. For two or three years, possibly, it would be much lower, but that is the average calculation.

SECOND GENTLEMAN.—There is an ex-soldier here, and he has patriotism; but I think that since I went into the war and took my pay in greenbacks, the men that lent the money to the government to sustain it ought to be as patriotic as the soldier, and not demand a superior dollar to the soldier.

FIRST GENTLEMAN.—Well, I must tell you that I think a good silver dollar that you can take into any other country in the world is worth more than the paper money of the United States as it generally runs. Why, during our late war, one day in July, 1864, you had to pay two hundred and eighty-five cents in legal-tender currency for a dollar in gold, and the average value of the legal-tender currency was only from thirty-three to fifty per cent. for the period of from four to five years, and it was at a discount to the very day of the resumption of specie payments, on the first of January, 1879,—even the last day it was at a discount of a quarter per cent.

SECOND GENTLEMAN.—What made them go to a par with gold?

FIRST GENTLEMAN.—Because the government required the custom duties to be paid in gold, except as to the first batch of legal-tender notes that were issued.

SECOND GENTLEMAN.—Wasn't it a fact that the day the United States government received the greenback for custom dues it went to a par with gold?

FIRST GENTLEMAN.—Certainly.

SECOND GENTLEMAN.—Very well, then, don't you see that the law crippled it?

FIRST GENTLEMAN.—Crippled it,—how?

SECOND GENTLEMAN.—By making an exceptional clause,—“Not receivable for custom dues.”

FIRST GENTLEMAN.—Yes; to that extent. Another thing: you cannot go over into Canada without paying fifteen per cent. over our notes.

THIRD GENTLEMAN.—I think that is a mistake. In Canada the United States legal-tender note will pass for a dollar, but the silver dollar will not.

FIRST GENTLEMAN.—Because—well, that is just the point. How much Canadian money will go in this country? They are paying us the same compliment we pay them.

THIRD GENTLEMAN.—But they will take our notes, and we won't take theirs.

FOURTH GENTLEMAN.—A gentleman here states that the proposition made by the last gentleman is hardly true,—that he was in Canada last summer and passed a silver dollar and it was accepted as a dollar.

FIRST GENTLEMAN.—I can't see why it should not be. I would like to say another word. There was a statement made by the professor last week in regard to the demonetization of the silver dollar. Now, I have here the National Bank Law. It was given to me in June of 1879. I sent for the United States Bank Law, and they sent me everything bearing on the question, and a statement of the condition of the banks at that time, and I find nothing which would show that the legal dollar, the silver dollar, was ever demonetized.

MR. S.—Well, that is a question of the use of words. The silver dollar was dropped from the list of coins.

FIRST GENTLEMAN.—But it is a legal tender.

MR. S.—Yes, it is a legal tender; but by the law of 1873 its legal-tender quality was narrowly limited, and this continued till the law of 1878.

FIRST GENTLEMAN.—Its value was never taken away from it by any act of this government.

FIFTH GENTLEMAN.—I take just exactly the opposite ground on the question of the amount of money needed to that which

has been stated. I may be wrong, but I think that the reason this country does not require the amount of money for circulation that France does, is because it is so largely an agricultural country. There are certain times in the year when the movement of the crops requires a great deal of money in circulation, but you never find a farming community that settle their debts more than once in six months, and during the rest of the year the money is absolutely useless and about as scarce as hens' teeth. I think that a country so largely agricultural as this can get along with a much smaller amount of circulating medium than a country which is so generally a manufacturing one as France.

MR. S.—I had an experience which brings out that fact clearly. Last June I was down in the Tennessee mountains, and a man with whom I stayed overnight said that a person who had fifty dollars in money anywhere in the mountains was considered a moneyed man, and there was scarcely any money in use at all throughout that whole region. Things were mainly paid for by exchange in kind, so far as there was any exchange, and money prices were ridiculously small. At the place where I stayed I had supper, lodging, and breakfast, as good as could be got anywhere there, and my bill the next morning was twenty-five cents.

SIXTH GENTLEMAN.—In regard to the statement as to money required for travelling through a large country like this, I do not think that will apply. Any one starting to travel over this country, if they go to their banking institution and get drafts on New York for fifty or a hundred dollars, they will answer the purposes of money in every case. It is not necessary to carry money; you can take a draft to your own order, payable in New York.

FIRST GENTLEMAN.—How will you be identified for the payment?

SIXTH GENTLEMAN.—Don't need to be identified.

FIRST GENTLEMAN.—You certainly do. Any banker who is doing a safe business wants the holder of a draft identified in some way or other. I have had experience in a bank, and I know we never want to take a draft of an individual whom we do not know.

SIXTH GENTLEMAN.—Well, I never had to be identified.

FIRST GENTLEMAN.—That may be because you have such a good-looking face, but that is not the case with everybody.

MR. S.—We want to settle the question how much money the United States needs.

FIRST GENTLEMAN.—I am in favor of the government paying out plenty of this silver. You said those people down in Tennessee would be counted rich if they had fifty dollars. Now, suppose you scatter our silver money over the country, among the people. It is very heavy; people would not want to carry it about, and there would be an inclination to lay it aside; and to that extent the individual saves his money, and he is that much better off when he needs money for any necessary, or comfort, or luxury, or in case of sickness. The government should put out less paper money and more specie, particularly among the people.

SEVENTH GENTLEMAN.—I should say that I think a question that ought to be solved, if possible,—one that would be better, perhaps, than how much money we actually need in the country, because that may be impossible to solve,—would be, what should be the proportion of increase yearly? Within the last twenty years the amount of circulation of this country has been more than doubled, or, I think, in the last fourteen years. In 1878 we had about nine hundred millions; now it is about eighteen hundred millions, according to the last report of the United States Treasurer. Now, isn't that too great a rate of increase? Does the increase of population warrant it? Do we need it? I think the question that requires solution now—that our Congress, if not this audience, should attempt to solve—is, what should be



the rate of increase? Sixty-five millions a year we are getting now. Is that enough, or too much, or ought we to go to one hundred millions?

MR. S.—Would you say that the increase in population is the only element to consider?

SEVENTH GENTLEMAN.—I think that is the chief argument in favor of an increase in circulation. I think every one here would be willing to say that the prosperity of this country for the last twenty years is equally great with that which has existed in France, yet France has, perhaps, twice our circulation. The trouble about the per capita argument is that those who use it confuse distribution with circulation. The mere fact that a large amount of money is in the hands of the people does not prove that the mass of the people are any richer. Take New York City and include in your calculation the money of a few wealthy men, and the per capita circulation would be immense, and yet the great majority of the people are poor. The per capita amount increasing so largely does not prove that the great mass of the people are richer. You do not prove a greater distribution by proving a greater per capita circulation. How does the money get into circulation, and where does it go when it is put out? The money paid for the bullion bought from the silver men goes into the silver men's pockets and enriches them, but do the great mass of the people get any richer by it? There was an editorial in the *Century* only recently which took that ground,—that an increase of per capita circulation does not necessarily mean a greater distribution.

MR. S.—Have you looked at trade statistics to see what has been the increase in trade during that period, or taken any means to find out what has been the increase in the commercial demand for money?

SEVENTH GENTLEMAN.—No; but do you think it has doubled in the last fifteen years?

MR. S.—I should not think so. Then, of course, there is

another element to consider in determining the proportion of increase that should take place, and that is, to what extent the banking facilities have been increased and to what extent they have diminished the need for a circulation of money.

SECOND GENTLEMAN.—The Secretary of the United States Treasury in 1865 reported that there were over two billions of money in circulation at that time, and we have nearly the same amount to-day.

FIRST GENTLEMAN.—Did you say that in 1865 we had two billions circulation?

SECOND GENTLEMAN.—Yes, in 1865.

FIRST GENTLEMAN.—Oh, no, sir.

SECOND GENTLEMAN.—Yes, sir; you take the report of June 1, 1865, and you will find it.

FIRST GENTLEMAN.—I guess that is the national debt.

SECOND GENTLEMAN.—It was all used as circulation; demand-notes and seven-thirty certificates, and certificates of indebtedness, all circulated at that time, and McCulloch, who was Secretary of the Treasury, reported it as such.

EIGHTH GENTLEMAN.—What is the use of discussing the amount of money needed, if we are told that the value is inversely as the amount,—if we have twice as much the value of the unit would be one-half, but the total value would remain the same anyhow? I think it is much more important to ask what is the value of that statement which is held by the modern school to some degree, that the value of money is inversely as the volume.

MR. S.—Do you consider your statement of that theory a fair, full statement?

EIGHTH GENTLEMAN.—It is not a fair, full statement of what you have said. I was just going on to put that in the form in which you stated it, in order to add another question to it. You said, in connection with that statement, Imagine that one million dollars' worth of goods were put into a store and upon those

goods a million dollars were issued for one time, and afterwards one and a half million dollars were issued on that same amount of goods; that the value of each of these tickets would fall in proportion to the increase of volume. I consider that perfectly correct, but it appears to me that in this statement the amount of money really has not been increased, because the substance of the money was really the wealth that was behind the notes, and if we merely multiplied the number of notes without increasing the substance of the money, why, the amount of money, in that case, would remain the same. Now, in relation to that I should like to have that question answered. By the way, I should say that these tickets I consider merely evidences that the holder is the owner of the wealth in that storehouse; therefore the tickets are merely evidences of ownership. Now, if these tickets were multiplied, but if, in the same proportion in which the tickets are multiplied, wealth should be added to that store, in that case would the value of the unit of money be affected by an increase of money?

MR. S.—No. In that case I should say that the demand for money increased proportionately with the supply, so that the value of the unit would remain the same.

NINTH GENTLEMAN.—In your remarks you said that the question as to how much money was needed in a country was so complicated that perhaps it should be left to the natural laws. Now, I should agree with that to a great extent. Take any other commodity, we will say boots and shoes, for instance; no body of men can tell how many boots and shoes are needed to supply the people, but they could tell that a great deal more closely than they could money; that is left to the natural laws of trade. Now, it seems to me that if you had a measure of value that was stationary, say the gold dollar of so many grains, and then you had money issued on a deposit of value such as the last gentleman alluded to,—only as much of circulating medium as was necessary to supply the demand,—you could know then

what money was necessary to make the exchanges in the country. In other words, if there is a demand for more money, more money would be issued by people holding the property; when that demand decreased there would be so much more money withdrawn from the circulation. It would furnish an expansive currency, whereas at the present time we have an arbitrary supply of money without regard to the demands for money in the country. What objection is there to leaving the supply of money in a country to the natural laws of supply and demand?

MR. S.—Well, that fight has been had over in England. It was that fight, really, which led to the banking law of 1844, and it was another form of that same idea which was presented in our free banking. Although I admit that the actual experience in the United States under our free banking was not a fair test of what your system would be if it could be carried out as you propose, yet it was the same idea of leaving the money to the natural laws of trade, and, so far as I know, wherever such an experiment has been tried, or free banking or anything like free banking, it has led to trouble of such a sort that the nation, the government, has seen fit to put its hand upon the circulation and bring some kind of control or regulation of the issues into effect,—some national bank, or some scheme of national banks, or some control of the circulation. Now, I speak here only of the historical tendency, of what has actually been done. That, of course, does not shut out a proposition of this sort from a fair discussion and a fair trial. There is certainly value in many arguments which have been used on that side. In England the great argument of one school was that if bank-notes were allowed to be freely issued, and if the banks could be held to a strict convertibility on demand of these notes, the notes could not be issued in excess of the quantity of coin which would circulate. That was one English theory. That is, if trade would demand an increase of notes and the banks would issue them, and if the banks kept enough coin on hand to meet their



demands, why, when the trade demanded less notes they would come in for redemption, and after another extension of trade there would be a new issue of notes, which would always be convertible into coin. Whether that would be a correct argument or not we do not know. History determined the other way; the other theory got the upper hand,—namely, that such a currency would tend to get out more money than would contract when the trade contracted; in other words, there would be a lasting expansion, and not an elastic currency. This was the theory which got the victory in the Bank Act of 1844.

NINTH GENTLEMAN.—Is there any way of determining how much of a thing is necessary except by the law of supply and demand? How can you tell how much of any commodity is needed? If the question is to arrive at what is needed of a certain article, I do not think anybody has the intelligence to tell. If it is left to the free action of supply and demand you will come nearer to it, it seems to me, than in any other way.

MR. S.—Well, the free action of supply and demand, in a great many instances, means the monopoly of an article by those who have the greatest industrial power. That is, you cannot argue that, leaving individual liberty of trade to every one, without regulation, you are going to have a perfect, just, and equitable system, because the commercially strong will get hold of the power of the commercially weak. That is a tendency that we see every day, and it would go on under a free system no less than under a regulated system, so far as I can see. There is another proposition which has been made by several people which would be an alternative to the proposition which you make. That is, that the government have a commission to watch the markets, to keep statistics of prices, of changes in prices, of the state of trade; have it done in a systematic and a very extensive way; and then have this commission empowered to expand or contract the circulation to meet the demands of trade, so as to keep prices stable. It is only a question, as you see,

between a free system worked by individuals and a government monopoly of the system, and the merits of it are really to be argued, I suppose, along that line of individual freedom or government monopoly.

A LADY.—Would you please tell us what it is that imparts the exchange value to a paper note? I know that the law of supply and demand gives it the concrete expression or the amount, but what is it that gives the paper note its exchange value?

MR. S.—That depends upon the kind of note.

LADY.—Well, the legal dollar.

MR. S.—What is really behind it, if it is a government note, is, of course, the promise of the government to pay. The basis of redemption is usually coin, but some notes have been redeemable in bonds, simply another form of government obligation. The ultimate basis of it, of course, is a redemption in a metallic money, a standard of the country.

LADY.—But there is no law of equivalents back of that. The fact that there is said to be specie back of it does not impart to the paper dollar, by any known law of equivalents, a dollar value, and John Stuart Mill says that the money laid out is equal in exchange value to the goods it purchases. Now, if a paper dollar is equal in exchange value to a dollar's worth of goods, then the cost of obtaining that paper dollar must have been a dollar, or else all principle of exchange is violated. Now, does not a paper dollar cost a dollar to obtain it? In other words, has the community not given to the issuer of a paper dollar a dollar's worth of consumable goods?

MR. S.—If the government issues it?

LADY.—If any one issues it, or more especially the banks. If a bank issues a paper dollar, is not the cost of obtaining that paper dollar by society a dollar's worth of consumable commodities?

MR. S.—Well, does society obtain the dollar? An individual usually obtains it.

LADY.—Well, the use of money is socialistic,—it is a social affair.

MR. S.—But the individual gets the money from the bank. We will see now,—what does he give in exchange for that?

LADY.—Well, I think that is scarcely meeting the question on its own merits. We will take all the paper money. Now, the production of that paper money is relatively insignificant. Now, while I find in the literature of banking most explicit statements regarding the use of banks to people, I find no suggestions with reference to the use of people to banks. John Stuart Mill has laid down the law that money is not actually the amount in circulation, but it is that amount multiplied by the number of transactions that it performs; and he says that money is equal in its exchange value to the goods it purchases. I have found in other literature this statement: that each person holding a bank-note lends just that much to the issuer of that note from time to time. In other words, if I have a dollar bill and pass that on to some one else, I either lend that amount of products or labor to the bank, and the next party holding that note and using it in a transaction lends the same. In other words, every time that a bill is used in a transaction it is multiplied just that many times. Is not that a fact that the cost of obtaining paper money is equal to the face value of that paper money given in consumable commodities to the issuer of that paper money?

MR. S.—Well, I should not agree with you if I understand your question. The paper dollar, as I understand it, is just what a promissory note of an individual is,—it is a promise to repay at some time the value which the person receives now. The person who makes the notes receives certain consumable commodities now, and in return for them he gives a note which defers the payment to some time or other when he is to make the payment.

LADY.—Yes; but why should a bank give a promissory note to people?

MR. S.—Why should a bank not do it as well as an individual?

LADY.—Well, could it do it unless it had received from the individual something,—unless it had received from the community something?

MR. S.—The franchise of the bank to carry on that business is a value which the corporation receives from the community, and for which it ought to render an equivalent to the community.

LADY.—But does it render it? What is the cost of obtaining paper money?

TENTH GENTLEMAN.—That dollar is just equal to the credit of the government and nothing else.

MR. S.—The point which you make, madam, in regard to the value of the paper dollar being multiplied a number of times, would that apply just as well to a gold dollar? Would you say that a gold dollar, because it makes six transactions, is worth six dollars?

LADY.—It must be so, according to monetary science.

MR. S.—I could not defend that proposition.

ELEVENTH GENTLEMAN.—Isn't it the simplest way out of it to say that it is a convenient form issued by the bank to save the handling of the bullion?

MR. S.—That is one advantage, but not the only advantage. It is also a deferring of the payment.

EIGHTH GENTLEMAN.—Is not the holder of a national bank note really a creditor of the bank?

MR. S.—Undoubtedly.

EIGHTH GENTLEMAN.—Then why is he not entitled to interest for that credit while he has the note in his pocket?

MR. S.—Why more than a depositor in the bank? But the bank has also been made his creditor, by the fact that it performs, by delegation from the government, the public function of issuing currency.



## LECTURE IX.

### PAPER MONEY, INCONVERTIBLE AND CONVERTIBLE.

LADIES AND GENTLEMEN,—In the lecture of last week we considered the topic of the value of money; not the value of money in the sense of how much interest shall be paid on money, but the value of money as the means of making exchanges; in other words, if gold or silver money be taken as the typical money, then the value of the gold or silver unit in comparison with commodities.

The lecture of last week, the lecture of to-night, and the lecture which I shall give next week are all very closely connected, so that to some extent in them all the same set of questions comes up for discussion, or at least different sides of the same question.

We came to the conclusion last week that the law of the value of money was, generally speaking, the law of demand and supply, the same law which rules in regard to other things. If we have a gold or a silver money, for instance, we find that the value of the unit of our money, of a certain quantity of gold or of silver, is determined by the law of demand and supply, the same as the value of any other commodity in the community is determined. We can apply the same law of demand and supply to every form of money, whether a metallic money or a paper money.

There will be a dispute, perhaps, as to what the elements of the demand are in regard to paper money, or in regard to any form of money, but still this is a valid general law.

We found, further than this, that government has the power to affect the value of the money unit; in other words, that government is a factor in commerce, in the system of exchanges, and

can change demand or supply like any other factor, and that government has, indeed, a certain facility in doing this which no other commercial factor has,—namely, through legislation. Hence we conclude that government can exert an influence upon the value of money, can raise its value or can lower its value.

We found also that while a government can do this, that yet a government can do it only within certain limits; that one limit which lies upon the surface is the fact that trade and commerce are not national, but are international, and that therefore we must have some means of making payments which shall be not merely national, but shall extend as far as the commerce extends; in other words, that prices of commodities, the money value of commodities, are fixed not in one nation, but are fixed by international influences.

We found that owing to this fact there is a flow of bullion from one country to another, according as the balance of trade is, as we say, favorable or unfavorable, and that in effecting and regulating this international movement of the precious metals price is the agency.

We found also that there was a question which receives a good deal of discussion and which we have never found an adequate reply to,—namely, What is the amount of money which a nation needs for its prosperity?

We should conclude, I think, from some of our discussions last week, that a condition in any country of high prices or of low prices is relatively unimportant; that is, whether we have what we call high prices or what we call low prices, that fact in itself, so long as such a condition remains stable and uniform, is not an important fact. In money relations it is a change from one condition to another which is the important fact. So far as price is concerned, the ideal is stability of prices, and by stability of prices we mean that so far as possible a contract expressed in terms of money to-day shall mean the same thing

when the contract comes to be paid,—that the value of money shall not alter from day to day and from year to year. That is the ideal which all schemes of monetary reform aim to reach,—a condition of stable prices, of stable money values.

I think we should agree upon one point,—that it is impossible to reach this by a fixed quantity of money in any country where trade is not itself fixed; in other words, that there is a need for an expanding or a contracting currency, as the case may be, in accordance as trade itself expands or contracts, unless indeed the credit system can be made so effective and so elastic in its operation that credit itself will do all the fluctuating work, will expand and contract with the demands of trade, leaving always a fixed amount for money to do.

In taking up more specifically the question which we have before us to-night, I would say first that we have only one form of money to deal with,—paper money. While the next lecture will join to this in many ways, yet the specific question to deal with in that lecture is as to the proper person, using person in its large sense, to issue paper money. Shall it be the government? Shall it be certain privileged corporations? Shall it be any individual who wants to issue it? This is the question which we shall discuss under the title “The Banks and the Government” next week.

The question which we want to discuss more particularly to-night is paper money itself,—what it is, its qualities, its uses, and certain policies in regard to the management of paper money, such as limitation of issues and securing of issues. In the literature of money a considerable discussion is found upon the point whether paper money is, in fact, money; whether the term “money” shall be restricted only to metallic money, or whether it shall also include these forms of paper money. This question we have already touched upon; but let us go a little more deeply into the matter of the nature of paper money.

We can clear the ground somewhat in this way: First, in the

early use of money, a commodity is used as money, a commodity which has a use in itself, which has a value by itself. Secondly, there exists, as a theory at any rate, a ticket-money; something which does not have value in itself, but which represents the value in other goods,—a purely representative money.

Any form of paper money, it seems to me, which we have yet had is, in a practical sense, a sort of intermediate between these two extremes. A paper money is undoubtedly a representative money. The question is, What does paper money represent? We may indicate roughly several stages in the development of paper money or representative money. In one stage of this development paper money represents coin, it represents the metallic money of which it is the successor, historically. It was in one instance, as we saw, the “bank-money” of the Bank of Amsterdam,—a certificate,—all the metallic money being kept on deposit to redeem the certificates. The silver and gold certificates of the United States represent the same idea.

Another variety of paper money in this category is that which we use very largely to-day, where it represents coin, but only a reserve is kept for its redemption. But both of these forms of paper money represent coin, and the idea upon which they are based is that the holder of this money shall at any time have the coin for his paper,—that the issuer is bound to redeem it in coin on presentation.

But besides money which represents coin and which must be redeemed by coin, there are several other sorts of paper money which have either been proposed or which have been in some form practically tried; and these represent, not money, not coin, but they represent some other specific commodity. A pawn-broker’s ticket would illustrate this, where there is a specific article pledged and a receipt given for it, which might be made transferable from hand to hand, and on the return of which the specific commodity would be returned. If you can imagine



pawnbrokers' tickets coming into general circulation as money you would have a money of this sort. The idea is that there is a pledge of some other commodity than coin for the redemption of the paper.

There has been a great variety of schemes of this sort. Some two hundred years ago there was a scheme proposed in England to have government warehouses for the deposit of grain, and grain receipts issued which should circulate as money, a form of currency which has been proposed, as you know, within recent years in this country.

There have been also forms of paper money based upon land, the idea being that they represent land values and are to be redeemed in land or the value of land, if brought in for redemption.

Then we go one step further in this development and come to a kind of paper money which has no specific fund back of it for its redemption, but which rests upon the pure promise of the issuer, whether the issuer be an individual, or a corporation, or the government itself.

To understand this stage in the development of paper money we must look at the historical origin of the idea of paper money. We should probably find it in the use of token-money or money which was less in its metallic value than in its nominal value, the worn coins and coins from which seigniorage had been taken by government, all of which deficient coins were found practically to circulate the same as if they were full weight. People, it seems to me, came in this way to have the idea that that which was not a commodity of full value in itself had yet, by custom, or authority, or habit, or by some form of general credit, a value which was equal effectually, practically, to the full commodity value. This would naturally lead to the other idea, that if one could take, say, ten per cent. from the value of a coin and yet have that coin circulate as of full value, one might likewise go further and take away twenty per cent. or fifty per cent.

Some writers have even defined paper money as being money with one hundred per cent. seigniorage taken out. Our greenbacks would partially illustrate this idea. The government pledges no specific fund for their redemption, but simply promises that they shall be redeemed in coin. There was a form of note issued by our government during the war called a demand-note, which simply read that the government would redeem in dollars. I forget the exact words, but it was something like this: that the United States will pay to the bearer of this note five or ten dollars, without specifying what it was that it should be paid in. The practice of the government, so far as it redeemed these, was to redeem them in coin, but there was no specific promise to redeem them in coin. As to what constituted a dollar, it would probably have been decided on a judicial determination that a dollar meant the dollar which was standard in the country at the time. But the idea of the paper is that it rests simply on the promise of the issuer that he will redeem it, while pledging nothing specifically for its redemption.

The further idea as to whether we can ever work out the pure ticket theory of money and get a money which shall rest upon no basis other than that of the general value in commodities themselves, has been already discussed enough for our present purpose.

The distinction between government paper money and bank paper money will more properly come up under the next lecture. I would like to discuss now the question of the convertibility of paper money. What do we mean by convertibility, and why do we want convertibility in our paper money? Convertibility, in the full sense of the word, means that the paper money, when brought to the issuer for redemption, shall be redeemed instantly on demand, at its full face value. If there is a delay in redemption, the paper is not a fully convertible paper currency, or if it is not redeemed at par it is not a convertible paper currency. The redemption must be instantaneous, and it must be at face

value in whatever is called for. We shall speak only of the money which is redeemable in coin, for that is practically the only kind of paper money which we have. Convertibility, then, involves redemption in coin.

The United States have issued paper money at several times which could be converted into United States bonds instead of being paid in coin. There were several instances of that during the Civil War and during the War of 1812, where, to get credit quickly, the government put out this form of an obligation and gave the holder of it the option, on his bringing it to the Treasury for redemption, of taking an interest-bearing bond instead of coin, if he should prefer.

Paper money has also several other qualities besides convertibility which tend to give it value and currency in a country. A paper money, for instance, which has not a legal-tender quality, you can easily see, would be harder to float under ordinary circumstances than if it were a legal tender. By legal tender we mean that in the payment of debts it is the kind of money which by law the creditor is bound to receive.

There are varieties of legal tender. Government often makes money receivable for public dues, and this is a form of legal tender; but when we speak of legal tender simply we mean this: that it is that which is made the lawful money in the payment of debts between man and man. In fact, government often makes money receivable in public dues and does not give it the legal-tender quality, or it may give it the legal-tender quality and yet not make it receivable in public dues, or it may make a note redeemable in bonds or in some other form. One historical form of money during the French Revolution, the assignat, was made redeemable nominally in land.

All of these qualities which are attempted to be given to paper money by government are, as you see, intended to create a larger demand for this sort of money, and in that way to add to its value. After all, we see that the question of whether such a

money, or any money, has value or not, is not ultimately whether the government says this or that about it, but rather whether the people will accept it and use it as money. All that government can do in this respect with its paper money is to offer it in such a form that the popular demand for it will make it an acceptable money that shall pass current from hand to hand.

There are a variety of questions which come up also in regard to the ultimate redemption of paper money, as well as to its instant convertibility. For instance, a paper money as to the ultimate payment of which there is no possible doubt may yet be such that we cannot always instantly secure coin with it. We might imagine even our national bank notes coming to this condition, although it is hardly possible that they should not be ultimately paid. But you can see that if there should be other demands upon the gold of the country and all of the bank-notes outstanding should come in for redemption at once, it would be an impossibility to give them immediate redemption in coin. This fact, of course, is one that runs through the whole credit system,—that we build up a large credit upon a small base,—but it does not concern us practically, except in certain crises in monetary life.

As to whether bank-notes are money, it seems to me that General Walker has said the best thing that I have seen. He makes it a practical question simply; he asks this question: Do the bank-notes do the work that money does? If they do, he says, we should conclude that they are money. That may not be a logical answer to the question, but it is a good practical answer, at any rate.

The theory of the bank-note is that it is the promise on the part of a firm or a corporation to pay legal money at a certain time. It is different practically from an individual promissory note. An individual promissory note does not become money. What is it that gives a bank-note, as we understand and use bank-notes, the quality of money? It seems to me that it is simply this: that by the system under which they are issued they have



practically a currency as money, that they do the work which money does; if they have a national circulation, they are to that extent a national money, although issued by private corporations. The logical question or the metaphysics of the question whether they are money or not we need not stop to consider.

There is another point about bank-notes which I should like to call attention to. So far as the liability of the issuer is concerned to the person who receives the note, there is no difference between the issue of bank-notes and the credit given to depositors,—between deposits and bank-notes. The liability of the bank upon a note, to the holder of the note, and the liability of the bank to a depositor, are the same. The depositor may at any time call for his deposit in legal-tender money and the bank must deliver it; the holder of a note may present it for redemption and the bank must deliver legal-tender money. So far as the bank is concerned in its relations to the holder of a note or to a depositor in the bank, there is no real difference between the two forms of debt. The bank trades with the deposits, and the bank uses that which it gets in return for its notes. So far as the discounting of personal notes is done by the banks, that is practically simply what we often hear spoken of as the “swapping” of notes. The bank gives its note to the individual, and the individual gives his note to the bank; and the advantage to the individual is that he gets the wider credit of the bank, and upon that can carry on his business as he could not upon his individual credit, and for that advantage he pays the bank interest.

There was a question in England upon bank-note issues, referred to in a previous lecture, which has a certain importance for us to-day,—whether bank-notes could be issued in excess if kept strictly convertible. The “Banking School” held that the bank-notes, if they were always redeemed, and if every one knew that they would be redeemed, upon presentation, would perform the same office that the coin itself would, and would not inflate

the currency beyond what coin itself would do if the bank-notes were not used. The other school—the “Currency School”—held, on the other hand, that a bank was able to keep out larger paper issues than the coin which would circulate if the notes were not used. The contest led to the Bank Act of 1844, in which the latter school was victorious.

I think, after what I have said upon the question of the bank deposit being a liability on the part of the banks of the same character with the note-issues themselves, that it is not a very important question for us simply to consider whether bank-notes can be issued in excess. The question is, Can the banks, in one form or another, extend credit too far? Can there be an inflation of credit by the banks, whether through the deposit system or through the note-issue system?

Upon this point, it seems to me, there is but one thing to say, and that is, that the banks themselves, unless they do their business recklessly, cannot get ahead of the spirit of enterprise and commerce in the people. If there is a demand for credit the banks will give credit, and they cannot give credit unless there is a demand for it. In this matter commerce will itself work out the proper limitation, if only there is a proper law for the regulation of the reserves. The great question in regard to note-issues in modern banking, whatever it may have been before, is the question of bank reserves,—are they sufficient?

The method of securing the issues of bank-notes in this country is well understood. The method of securing the note-issues in England is one which has been mentioned several times here. There is what is called an uncovered issue of notes to the extent of fifteen million pounds and more, which are based upon the deposit of government securities, after the manner of our own bank-notes in this country. Beyond that there must be a coin reserve, pound for pound. So that you see England has as firm a basis for its bank-notes as a nation could well have. The amount of note circulation which stays out, as a rule, is equal to

the fourteen or fifteen millions, and the rest of the note-issue, as we have seen, is based pound for pound upon coin deposits. We have also seen that under certain circumstances this limit has been extended so that there were more notes issued than the legal limit, upon the deposit of securities and not upon coin.

I wish now to call attention to a system of securing note-issues somewhat analogous to this in the German Empire. After the Franco-German War and the founding of the German Empire the policy was taken up by the German government of changing its system of coinage and banking so as to bring about a greater unity and consolidation throughout the empire. The coinage laws we shall leave for the lecture on bimetallism. Of the banking law I will give details enough that we may see the principle of securing the note-issues. The object of the law was to secure in the government system a monopoly of note-issue. There was throughout the various German states a great variety of banks of one kind and another, and they generally issued notes, for, as we have seen, the system of deposit has not grown in Germany to anything like the extent that it has in England and the United States.

The government modelled the system very largely upon the English system. The old Bank of Prussia was created into the Reichsbank. This was to have a great number of branches throughout the different parts of the empire. The private and the state banks were not done away with, but there were about thirty other banks throughout the empire, which, besides the Reichsbank, were privileged to issue notes under certain regulations. These banks had previously issued notes, and they were now brought into relation with the government system. There was a provision by which, as these banks gave up the issue of notes, their issue should fall to the Reichsbank, so that the circulation of the Reichsbank has been increasing.

The limit for the whole system of uncovered note-issues was fixed at three hundred and eighty-five million marks, and this

was proportioned among the different banks, the Reichsbank, of course, having the lion's share. These notes are secured upon deposit of government securities, and to some extent upon pledge of other property. But the important fact to notice is that beyond this limit there must be a coin deposit, as in the case of the English bank, except that if they issue further than the limit without a coin deposit, they are taxed five per cent. per annum upon the extra circulation.

The principle is the same as that in the English plan, and is designed to prevent issues beyond a certain limit without having the actual money to cover it. But in the English plan the limit is made rigid, and cannot be extended except by a violation of the law or by a government permission to go beyond it. In Germany, however, it is made elastic by this tax. If such a crisis comes that it seems necessary to issue more notes without depositing coin, the bank, simply by subjecting itself to this tax of five per cent. upon the extra issues, can issue them. In this way there is secured, as you see, the benefits of the English system without the necessity of suspending the action of the law. It is an automatic arrangement; it regulates itself. There is no doubt that the English system was the model upon which the Reichsbank note-issues were regulated, and they have had the foresight to overcome that difficulty which the Act of 1844 created in England.

There is a contrast which should be noted as to the motives for which paper money is put into circulation. In this respect we find a twofold stand-point. If we look at paper money from the stand-point of the government, for instance, we find that there is a variety of motives for the issue of paper money very different from those which appear when we look at it from the stand-point of commerce.

A government which puts out paper money does it because of some crisis in its financial affairs which requires the sudden use of money, or in obedience to some popular demand for



more paper money, or to meet some deficiency in taxes, by issuing notes for a short time. In other words, it is always some exigency of the government which calls for the issue of paper money by the government.

On the other hand, if we look at it from the stand-point of individuals, of commerce, we see that it is there a question of what shall be the most efficient means of carrying on commerce, and has nothing to do with the government.

In all these discussions about our paper money, then, these two forces appear at work,—the idea of a government monopoly and the idea of a paper money which shall be merely an instrument of commerce in the hands of individuals. If simply the furtherance of commerce is the end sought, then it is a question primarily of securing a currency which shall expand and contract with the needs of commerce. If, on the other hand, simply the affairs of the government are considered, there is no notion of securing an expansive or a contracting currency; but it is a question primarily of how much money the government needs at a certain time, and whether it can get the power by means of a paper currency to meet its obligations. In the lecture of next week we shall take up specially the question whether it is to the advantage of a country that the matter of paper-money issues shall be considered solely from the stand-point of the commercial needs of communities and shall be left in the hands of individuals or of banks, or whether, on the other hand, it shall be made a matter concerning the needs of the government alone and shall be a government monopoly.

In the use of money there is a twofold quality or function which generally introduces confusion into discussion: first, the function of money as the immediate means of transferring commodities, and, secondly, the use of money as the means of paying debts in the future, the means of deferred payment. When we study the interest problem we find that here, too, appears this confusion of ideas.

The question of money as the means of paying debts already contracted introduces a variant element into the rate of interest which is not present when we consider money in its other function, and this same confusion meets us in considering the question of bank-notes as against a government money. I shall take up that question in the discussion of next week.

*Questions to the class to answer during the ensuing week :*

1. What is meant by the convertibility of bank-notes?
  2. What is the best method of securing note-issues? Compare the practice in England, Germany, and the United States.
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#### DISCUSSION FOLLOWING LECTURE IX.

MR. SHERWOOD.—Before taking up our discussion this evening I wish to say a word in regard to those who take part in the discussion. In order that we may have more people taking part in the discussion I have thought it better to make a limit to speeches or to questions,—a three-minute limit to speakers, allowing every speaker two speeches. That will make six minutes, and inasmuch as we usually devote only half an hour or forty minutes to the discussion, you will see that that is quite a liberal allowance.

A matter mentioned in one of the papers I would like to bring before the class. The paper reads, "The rate of interest is, to a great extent, regulated by the varying supply of credits or funds for the payment of debts." Now, the question which I would like to ask here is as to whether the *permanent* rate of interest is determined by those conditions, or whether it is not rather determined by the amount of capital which we have to apply to industry. Is not the rate of interest which we get upon money as such a fluctuating and temporary rate, a varying element in the rate of interest brought about by the condition of

the money-market at the time? If there should be a great demand for money at a certain time for the payment of debts, making what we call a stringency in the money-market, it is hard to get loans, and the rate of interest goes up. But does the rate of interest go up permanently? Is it not merely a temporary high rate which will last only for a few days, until the stringency is over, and which does not affect the permanent return that comes from the employment of capital in industry? This latter fact, it would seem to me, is the ultimate fact in fixing the rate of interest. I would like to hear some discussion upon that point if there is any one who wishes to take it up.

A GENTLEMAN.—I would like to know whether that German law which allows some banks to issue more notes on the payment of five per cent. will not practically, excepting, possibly, very short fluctuations, prevent the rise of the rate of interest over five per cent. throughout the whole empire. That is, if for any reason the interest should rise above five per cent., would it not pay those banks to issue notes, and would that not bring down the interest permanently to five per cent.? And if that is so, it appears to me that if the German law asked, instead of five per cent., only two per cent. of the banks, and allowed the banks to issue more money on payment of two per cent., that that law would lower, throughout the whole Empire of Germany, the current rate of interest to two per cent. And if so, is it not the government monopoly of money, isn't it the laws of the government that regulate the rate of interest on money? That is one question.

MR. S.—Is there any one here who has a different view of the effect of that German law?

SECOND GENTLEMAN.—Is that five per cent. per annum, or is it just one bonus of five per cent.?

MR. S.—It is five per cent. per annum. If no one else has anything to say on that subject, I would like to ask the first gentleman if he thinks, under such a state of affairs, that it

would be profitable in Germany to loan money on mortgage on farms at more than five per cent. Do you think that this law regulating the banking interest would have any effect upon the permanent rate of interest on long-time farm loans?

FIRST GENTLEMAN.—It certainly would lower the permanent rate, except the rate of risk. Of course rate of risk has nothing to do with the rate of interest proper, and I only speak of interest proper. Where risk is involved the gross rate of interest rises with the addition of risk. But certainly if interest proper should rise above five per cent. it will pay the banks to issue more money, and nobody can get more than five per cent., because the banks will give it for five per cent., or for a little over five per cent.

MR. S.—Well, it does not seem to me that your theory would hold in practical commercial dealings. What would keep the interest below five per cent. is the fact that there is not any better investment to put it in. If there was a condition of trade which would make loans naturally pay more than five per cent., I do not see, from the working of that law, how the rate could be kept down.

THIRD GENTLEMAN.—Following the gentleman's suggestion out a little further, if that law was removed entirely it would seem to do away with the payment of interest above a purely nominal rate, one per cent., or whatever the risk might be, or it would do away with interest altogether, upon that theory, if that law was removed.

FIRST GENTLEMAN.—If I am in order there is a second question I would like to ask. The doctor said, and I think very properly, that the loan of money from a bank is merely the exchange of two credits. Now, we know that if two boys swap any two things with each other and one gives to the other something to boot, he does it because he considers that which he has received to be worth just so much more,—that is, the boot which he gives is the subjective excess of valuation, to take the words



of Böhm-Bawerk. Now, in that exchange between the bank and the borrower, an exchange of two equal credits, we find that the borrower gives something extra,—namely, the rate of interest. Now, if he gives something extra, then that which he receives from the bank must be worth more than that which he gives, and the only difference between those two credits is that the one is by law declared money, and the other is by law forbidden to be used as money. Now, is not interest simply paid on that difference, on the fact that the one credit is money and the other credit is not money? In other words, is not the reason why the borrower from a bank pays interest for the money (it cannot be due to the value that he receives, for he gives as much value as he receives) simply because the one credit is current, the other is not? Is not the law of the government the only factor that enables the bank to get interest from the borrower, and not the law of supply and demand? Is it not the government law, the man-made law?

MR. S.—Undoubtedly the government laws do affect interest, as they affect the value of so many other things,—the government law that we have, for instance, that has taxed oleomargarine out of existence. The government can by law destroy the value of a certain commodity in the community. There is no doubt about the power of the government. But the question here, it seems to me, at bottom, is this: the individual who gives his note to the bank does so because he wants to get the credit of the bank to use; that is worth more to him than his own credit. Now, under the law he pays interest on the bank credit which he obtains for his note. The question is, Does the existence of the banks for that purpose in the community benefit the commercial life of the community enough to make it worth while for the people to support the banks? Do the banks give an additional efficiency to commerce? That is the point, in fact. If they do, and if the government sees fit to grant to certain institutions the privilege of doing that, why, it is a question

simply of governmental policy. For instance, the business might be done by the government itself, but if the government delegates that privilege, it only does what it does in the case of granting a railroad franchise or any other kind of a franchise,—it gives certain privileges to certain individuals or corporations in the community to do that which would otherwise be a function of government itself, or which might be left perfectly unregulated for private individuals to do. It is a question of general policy.

Now, upon the point of where the source of the interest is. Suppose we were to abolish the payment of interest altogether, to make it unlawful to take interest. If there was no interest to be paid on a loan of money, and if one person had, we will say, a plough or other implement which he did not use himself, and which some one else wanted to use, would not the other person be willing to pay a hire for the use of that instrument? Suppose even that we abolish money,—not interest merely, but money itself,—would there not be a hire paid for the use of goods, for the use of capital? Is not that fact the fundamental idea in interest, and is not this interest, which is paid for money simply, one of the variant elements like that which we pay for risk, and not the fundamental source of interest?

FIRST GENTLEMAN.—By abolishing money we would certainly make it impossible that any of the inventions made during the past centuries or during this century could be used. Without money we would have no division of labor; therefore all the inventions would be absolutely useless to us, and if by any means we could make the inventions useful, that means should certainly be well paid for, such means would certainly need a very high royalty; but that is not the question. The question is not to do away with money, but to do away with the restrictions under which the issue of money now lies,—to get more money,—to get so much money that the rate of interest will fall to its natural level,—namely, to a remuneration of actual service rendered. Now, if the banks receive; that is, if the issuing

banker—I speak of the issuer now, and not of the deposit banker—if the issuing banker gives to the borrower a credit and receives from the borrower a credit, and he receives in addition interest, the interest is paid for the advantage which his credit has over the advantage of the borrower's credit,—both credits being equal in value, for that certainly must be admitted,—and if the banker's credit is only more valuable because the government gives to the bank special privileges, the government being the people, then the people are really the cause of the advantage of the banker's credit, because they give that special privilege to the banker, and because the people give the special privilege to the banker the banker can obtain interest from the people. Is not the interest which he receives payment for something which is not a service rendered? He is merely the agent of the people to render the service; it is really rendered by the people from whom the interest is taken. Is not the payment of interest, then, a payment for service not rendered? and if somebody must give service and receive no service,—that is, if somebody receives service without giving a return service,—must not somebody be deprived of a service without receiving a remuneration?

MR. S.—From my point of view the service is a real one which the bank renders. The bank may be the agent of the people, but so is a railroad corporation an agent of the people. A railroad corporation cannot carry on its business unless the people give it the privilege. It is only by the people delegating the power to the corporation to carry on its business that it has the right or the power to do it. Now, we have decided, as a people, that the banks are entitled to receive a payment for the service which they render, as the agent of the people, to use your words.

A LADY.—While we are on this point, will you please tell us what it costs society to obtain this money from the banks? I think I asked the question last week.

FOURTH GENTLEMAN.—That question has arisen two or three

times during these lectures. I think the lady asked something like that before.

LADY.—It is the very identical question I asked last week, but it was not answered.

FOURTH GENTLEMAN.—I think, to an audience composed largely of bankers, that must seem a very peculiar question, because the simple reading of the National Bank Act would answer it very satisfactorily to any one, I think. If you will allow me two minutes I will try to answer the question, and I think at the same time I can answer the first gentleman's argument in regard to interest. The national banks are to-day the only banks of issue in this country. The system is much the same in England, and, as you have told us to-night, it is much the same in Germany,—that is, in all civilized countries, you might say. We will take the national banks in this country. Before a national bank has a right to issue a dollar of money it has got to give to the representative of the people—that is, the government of the United States—more than a dollar. Let us take, for instance, a bank with a capital of one hundred thousand dollars which wishes to issue its notes up to the full legal amount,—ninety thousand dollars. It would have to go into the open market and buy United States bonds. It must deposit those bonds with the United States Treasurer, and receive notes from him. The banks do not issue their own notes: they simply receive them from the United States Treasurer unsigned; so that no bank in the United States to-day has a right to print its own notes; it is done in Washington, and they are forwarded to the banks. What does that currency which it receives from Washington cost the bank? It costs all the way from a premium of one per cent. now to sixteen or eighteen. Let us take what the four per cent. bonds are worth at a premium of twelve. That is, to issue ninety thousand dollars of notes the bank is obliged to hand over to the government one hundred and twelve thousand dollars in bonds. The national bank notes are the best



currency that this or any other country has ever seen. There is greater security back of a five-dollar national bank note than there is back of any other five-dollar piece of currency that we have in this country to-day. The faith of the government is pledged for the payment of the bonds, and the bonds are worth a premium in gold. The bank for ninety thousand dollars in money is at an expense of one hundred and twelve thousand dollars. The premium of twelve thousand dollars has got to be charged off as actual loss, and the difference between the ninety and the hundred simply lies idle, and the bank loses the interest on that amount. Now, if any lady or gentleman present will make the calculation they will find the actual value to the banks of a circulation based on four per cent. bonds. It is a calculation not difficult to make, and, saying that the banks get six per cent. for all the money they receive, it will show that the circulation is really worth to them just one-half of one per cent. That is what the circulation is worth, and that shows why the national banks, at their own option, have reduced their circulation to almost the lowest possible point. Take, for instance, this city. With the bank capital of about twenty-three million dollars the banks have the right to issue ninety per cent., or about eighteen million or nineteen million dollars, if they wish to; the actual issue is about three million five hundred thousand dollars. In Chicago, with the bank capital of twenty-two million or twenty-three million dollars, the banks would have the right to issue notes to the extent of eighteen million or nineteen million dollars; yet the actual issue is about one million dollars. The banks do not want circulation or currency, because it does not pay enough. That is a simple calculation that any gentleman or lady can make.

LADY.—If I understand those bonds, they are simply security to the people, and cannot impart any exchange value to the bank-notes whatever. I wish to ascertain what it is that gives the bank-note its exchange value. According to monetary

science the money laid out, be it paper or hard money, is equal in exchange value to the goods it purchases. Now, the banks draw interest on these bonds, and the bonds are to secure the people. Now, why should it be essential to secure the people if the banks are benevolent and philanthropic institutions which are handing over money to the people without taking anything in return? And, furthermore, monetary science says that the money laid out is not the amount of money in circulation, but it is that amount multiplied by the number of times that each dollar, or paper note, or whatever is used as money, performs a transaction. Therefore the only legitimate conclusion is this: that if a paper note or a dollar performs ten, or a hundred, or five hundred transactions in a given time before it is returned to the bank for redemption, it stands just that many times into the bank, and its value must be a hundred, or five hundred, or ten dollars, in consumable commodities. I cannot understand how the United States bonds can impart exchange value to the paper note.

MR. S.—Well, in regard to that point, that the circulation of the note so many times imparts so many times that value to the note, do you think that the bank gets that value every time that the note is turned over?

LADY.—Really I do not know; but those are the principles that I find in monetary science, and I can see no other legitimate conclusion to draw, and I am very desirous to know the truth. I have seen these suggestions, but nothing explicit, throughout all the banking literature and monetary science. It is laid down, for instance, that if a note performs ten transactions it stands the issuers ten dollars, and Mill says that every note is to the issuer of that note the same as the coin that it represents, and in another place he says it is to the issuer the same as real capital; and putting that with the statement of monetary science that the value of money is inversely to its quantity multiplied by its rapidity of circulation, I think we have an explanation of why

the issuers of money expand and then contract it, because it gives a great deal of profit to them.

FIFTH GENTLEMAN.—Does this lady forget that it requires cash to buy the bonds, and that the issue of this credit-money is on credit, just as if I were to buy goods from a merchant and give him a promissory note? It is only credit.

LADY.—Would you give a promissory note unless you owed something?

FIFTH GENTLEMAN.—But I get the exchange value.

LADY.—Yes, but the bank would never give the note unless it owed the people, and it says in the "Encyclopædia Britannica," in the article on this subject, that each person who holds a note from time to time lends just so much to the issuer of that note.

MR. S.—Well, that is simply a transfer of credit. If one person holds a note from a bank and that person passes the note on to a second, and he to a third, that is simply a transfer of the credit from one holder to another. It is only one credit to the bank. There is absolutely no reason for supposing that the bank gets more than one advantage from the issue of its note. It gets interest on the credit which is back of the note. It gives out its credit, and it merely gets interest on that.

FOURTH GENTLEMAN.—There is confusion on this subject, I think, and every one who has read the old books on political economy has run across it; and that is, that the national bank note is comparatively new, while nearly all the books on political economy treat of the old banks of issue, and to-day there is no such thing in this country. The lady has probably been reading about the old banks of issue, where the issue was of more considerable value to the bank, where they did not have to deposit value for what they issued; but now it is not so. For a simple illustration, suppose my credit was not good, and, if the lady will allow me to say it, suppose that hers was perfectly good, and I cannot issue a note which would be accepted, but if I were to give her value she would give me a note and I would

issue it. Suppose that she gave me a note and it was passed around in circulation five hundred times, would she gain anything more by each successive use of the note? A bank-note may perform five hundred transfers of goods, but what does the bank benefit by that?

LADY.—Well, if the banks are losing at such a rate as you say, I should think they would go out of business.

MR. S.—The more important part of the banking business is the deposits in the banks. They do not pay interest on these deposits, but they trade with them and get interest on them, and I should say that the banks in the country make a far greater amount of money from the deposits than they do from the notes.

SIXTH GENTLEMAN.—The national banks for fifteen years made eleven and a half per cent.

SEVENTH GENTLEMAN.—Is it taken from a man's time if he rises to a point of information?

MR. S.—No, sir.

SEVENTH GENTLEMAN.—I want to say a word in reply to the statement that was made by the gentleman who answered this lady. The gentleman's reply is absolutely misleading,—most seriously misleading. If he gives the impression that the bonds of the United States have been bought at a premium in gold to base the national bank issues on them, he gives an impression which is directly false. As a matter of fact, I think every banker knows that these bonds were bought, when the national bank issues were originally authorized, at from fifty to fifty-one cents, and even as low as thirty cents on the dollar. They were not at a premium of twelve per cent. in those days. They were bought at an average price of fifty cents in gold, or fifty-one of silver. Now, the national banks have been given the privilege of eating the cake and keeping the penny too; they have had the privilege of drawing interest on those bonds at the same time that they have had ninety per cent. of their par value to use besides. So



that when he says that all beyond the ninety thousand dollars lies idle he is mistaken; it lies idle in the same sense that any money well invested lies idle,—it draws interest all the time.

FOURTH GENTLEMAN.—The bonds are not bought at a discount now.

SEVENTH GENTLEMAN.—Oh, no; I am not here to deny that the National Bank system has been worked for all it is worth, and that it is less profitable than it was at first; on the same principle that ultimately competition does bring down the price of things under a tariff, but that does not say that the manufacturer does not get the first whack before competition sets in to lower the price. The tax of ten per cent. taxed out of existence all the State banks. Now, those gentlemen who started the national banks took the gold which had been deposited in the State banks, which banks had suspended payment,—that is the case, is it not?

MR. S.—Yes; very largely.

SEVENTH GENTLEMAN.—Yes, at the founding of the national banks all the State banks had repudiated their notes,—there was a general suspension; and the bankers of those days took the gold which by right should have gone to liquidate their own liabilities and bought in the open market, and not from the government, the government bonds, as I said, at about fifty cents on the dollar. All this while they have been drawing interest on that deposit of bonds, and the fact that there was such a return from those bonds has led to the gradually increasing premium on them, until, as the gentleman says, it does not now pay to buy them and go into the banking business. He is seriously mistaken, however, in giving the impression that such has always been the case.

SIXTH GENTLEMAN.—I would answer to what the (fourth) gentleman says in regard to the legal-tender currency of the country. They bought the bonds at the par value really; Jay Cooke sold them for one-half per cent.,—that was his profit. But

instead of taking gold to buy these bonds, they were bought with the State bank currency. About two hundred and thirty-eight million dollars of State bank currency was in circulation in 1863 and 1864 and along there. There never was a better time in the United States for the circulation of money of every kind than there was during the war. From the time of the organization of the national banks in 1863 to 1879, when specie payments were resumed under the law, two hundred millions that were paid to the banks in interest money, in gold, by the government, were sold by the banks out in the open market and a premium made on it. They not only derived the interest of six per cent. on the bonds deposited, but the large premium upon the gold which they sold in the market, because that commanded from thirty-three to fifty per cent.; and besides that, they were making money out of discounts; and in fifteen years the average amount earned by these banks was eleven and a half per cent. Now, that is a matter of record found in the finance reports of this country published a few years ago. The premium on the stock of the national banks goes to show that there is a very large profit. There is scarcely a bank in this city, fifteen or twenty years old, that will not command one hundred per cent. on its capital, and some of them two hundred and fifty. The quotations will tell you that.

FOURTH GENTLEMAN.—I would ask for a few minutes to reply to the (seventh) gentleman. If the gentleman will look at the record of the national banks he will find that only comparatively a small proportion of the number now in existence were in existence at the close of the war,—a very small proportion; I cannot give the figures, but in 1882, which was seventeen years after the close of the war, the consecutive number of national banks was about twenty-seven hundred. Now it is forty-five or forty-six hundred; showing that nineteen hundred have been organized since 1882, and that up to 1882 the number was twenty-seven hundred. The great majority were organized after the

close of the war. Now, in regard to the banks getting the bonds at a discount, I do not think they ever bought United States bonds at fifty or fifty-one per cent. They may have got them at par in notes, and so had other citizens the right to do that. I have heard it stated that even citizens of Germany sent their gold over here and bought notes for the same purpose. The United States government at that time was wavering between life and death, and if the national banks came to the rescue of the government and were one of the factors in saving the life of the nation, and if they made some money out of it, I do not see why they should not. But for thirteen years past the national banks have not made much out of their circulation, and if they had they would be entitled to it.

EIGHTH GENTLEMAN.—Isn't it a fact that the national banks only had one hundred and seventy-eight million dollars in circulation in 1865, which would not have carried on the war for one month? Where can the claim come in for the national banks of carrying on the war?

FOURTH GENTLEMAN.—Well, that was a good deal of help to the government.

NINTH GENTLEMAN.—I would like to ask, What are the banks? Are they not the people of the country? Is there a single man or woman in the country who cannot put their money into the banking business if they want to, the same as anybody can buy railroad stock?

SIXTH GENTLEMAN.—I was connected with a State bank and I know that they bought the bonds of the government with State bank currency. A great many of them were sold in the locality where this bank with which I was connected was situated, and I know that there was an allowance made to Jay Cooke of one-half per cent. I got some of the bonds myself and I did not put them into the bank. You know the State banks were allowed to issue currency up to the first day of July, 1866. After that date there was a tax of ten per cent. placed upon all State bank

currency paid out over the counter or paid out by a national bank, and any money circulation or any money orders issued by manufacturing establishments were liable to a tax of ten per cent. Now, I held the bonds I obtained a sufficiently long time and realized seventeen and a half per cent. on them.

FIRST GENTLEMAN.—The question has been asked here, What is it that limits the banking freedom? Has not everybody a right to become a banker? Allow me to answer that in the negative. It can be shown that the amount of money is limited so long as money is confined merely to gold or silver, or gold and silver. The amount of money is certainly limited so long as the issue of bank-notes is limited to the amount of national bonds. The amount of money is artificially limited so long, certainly, as laws are made which hamper the National Banking system, which hamper the amount of the issue and cause the withdrawal of so much of the bank circulation. There is no longer a one per cent. tax, but a number of very ugly conditions are put against the National Banking system. I am in favor of the National Bank system, but I want everybody to have the same right that the banks now have. So long as money can only be made of certain kinds of wealth, so long as the banking is limited, so long as the conversion of United States bonds into money by the banking issue is hampered by these laws by which the national banks are hampered to-day, so long the amount of money in circulation is limited and the banking is not free. There is a monopoly.

MR. S.—Yes, there is a certain amount of monopoly in the national banks, and for my part I believe in the exercise of government monopoly to a great extent, not only in our banking business, but in certain other matters. Yet I do not set up as a defender of the present National Bank system; I am not here to *defend* any system. The time has come to close.



## LECTURE X.

### THE BANKS AND THE GOVERNMENT.

LADIES AND GENTLEMEN,—The question to be considered to-night is one which brings before us, in one of its aspects, very sharply and clearly, the general question of the relation of the state to industry, to trade,—the great vital question in the economics and in the politics of this century,—What shall be the relation of the state to trade? how does the individual stand towards the state?

It seems to me that in treating of this wider problem we shall come, after all, to one conclusion, and that is, that this relation of the individual to the state in matters of industry is one to which no absolute answer can be given which shall serve for all times and for all peoples in every stage of development. It is rather a question for each particular people to work out for themselves at each particular time in their history.

If we go back a hundred years and more to France, we find a group of political philosophers who wrote, among other things, of an ideal of education. The chain of writers began at the time of the expulsion of the Jesuits, about 1765, with a man by the name of La Chalotais. Diderot later took up the project of a national system of education, which he wrote out for Queen Catherine of Russia, and still later Turgot wrote out a scheme for national education somewhat along the same lines. During the French Revolution there were several projects for a national system of education.

The French Revolutionary government in 1791 declared that education should be gratuitous and universal and free. The ideal of the French writers at that time was an education directed by the state, open to all who would avail themselves of

the opportunity, and offered gratuitously to all ; in other words, a system of education which should be supported by taxation, controlled by the state, and available to all the people in the state.

We are apt to think of state universities as a German institution, but we can safely say that the ideal of state education which has been worked out in this century is a French ideal, and that it has been copied and worked into the German system. The European and American systems of state education have been wrought out partly in imitation of those French ideals and partly by the same forces working in these other peoples which were working in the French at that time.

There is one peculiarity in this French educational ideal which will be profitable for us to consider to-night. The French writers of that time had very clearly and definitely before them certain Greek ideas of control by the state, ideas best shown in Spartan institutions. The dominant thought is that the individual lives for the state ; that the life of the state is larger than the life of the individual ; that society exists not for the individual, but that the individual exists for society.

The French, likewise, have worked out, in their systems and in their theories, another idea taken from Rome,—the idea of organization, of a centralized administration, carried out in a system to its smallest details,—the coördination of parts and the systematization of the whole.

This French ideal uniting the two things, the supremacy of state above individual and the necessity of a coördinated system, is what our educational institutions, in this century, have been working out.

But what has this to do with our question ? This, as it seems to me : that with the French Revolution and our own Revolution—the general political revolution of the last hundred years, not accomplished in England till the reform measures of this century—we have worked down to the idea that every man has a

right to his vote in the state; that the state, while it is greater than the individual, yet rests upon the individual; and that the individual has his right, his equal right, in that state, to say how the state shall be governed.

Now, when you take this French ideal, the beautiful organization which they have worked out in their government, and put into that organization the democratic idea of this century, the idea that every man shall have his voice in the government of the state, the idea of real self-government, then you have the tendency of our day, what may be termed a democratic imperialism. However it may be phrased, the idea is that the people themselves, acting individual by individual, yet are organized and work along lines which we may call socialistic or imperialistic. We get a political organization or machinery which is as complete as that of the Roman Empire or of Louis XIV.; the political system, in a word, of tyranny, but a system which, put into the hands of the people, becomes the most democratic that we can have.

That is what I should say is the ideal to which we are working in this century, the ideal of a more complete organization in our political life, and yet the ideal of a more complete democratization of the power in government. Now, can we apply these ideas to industry? Along several lines this has already been done. We have called attention more than once here to the fact that in the latter part of this century there has been a wide-spread political consolidation, a growing towards larger empire. The Civil War shows the tendency in this country,—our Union is bound together as it never was before; the German Empire coming shortly after repeated there the history of our own consolidation of States; the Italian unity coming about the same time reveals the same resistless tendency; everywhere, we might say, among progressive peoples to-day, this idea of an imperial democracy is working itself out.

In the great banking systems the same thing has been done.

Look for a moment over the history of banking in this country and you will see how we passed from an era of unregulated banking, slowly by degrees through a system of progressive regulation, one State putting its hand upon the banks here and another State upon the banks there, each in a different way, until at this same era of the Civil War was consummated a national organization of free banks.

In the history of England, as we have reviewed it, we have found that the same idea has been worked out there; starting with a comparatively free issue of note circulation, they have passed on through several stages of more stringent regulation to the condition which they have to-day, where the issue department of the Bank of England, instead of being a private institution, has become an instrument of the government of England. The Bank of France illustrates in its history the same progress, and in the Imperial Bank of Germany, about which we spoke last Wednesday, we find another illustration of the same idea. Everywhere, then, along with this political consolidation, along with this educational consolidation and organization which we see in this century, there is an industrial consolidation and organization which the banking notably illustrates.

These are the facts of our history. It remains for us to inquire their meaning. Let us see precisely what it is which the banks do. If we take up the history of coinage, we find that very early in the industrial development of peoples they have put into the hands of the government the control of the currency, of the money, of the coin of the realm.

In several countries, in their early history, there was a period of free coinage, free in the sense that every one had the right to coin money for himself. This was very soon found impracticable, and people passed on to a condition where it was the prerogative of the crown to stamp the money of the realm, to issue it, and to recoin it. This prerogative stands to-day as one of the prerogatives of sovereign government everywhere, and no country now



is willing to allow individuals to coin money upon their own account. I do not think, therefore, that we need to argue this question.

When paper money has come to be used as a direct issue in place of coin, governments generally have likewise taken that power to themselves. The theory upon which this prerogative rests is that the paper money representing the coin and being, to that extent, simply in the place of the coin, it naturally belongs to the government to regulate it.

The earliest systematic use of this power was by the colonies of this country before the Revolution, although it was taken up by Austria shortly after, and Russia also, and by our own Continental Congress.

You all remember the great debate, at the time that our Constitution was adopted, as to where the right to issue paper money should be placed. You remember that it was by the Constitution denied to the States, and that it was left unsaid in the Constitution whether the United States should have the power to issue paper money or not. We have found that in our history, as a matter of fact, the United States, at various periods, have issued different varieties of paper money,—that during the War of 1812 and subsequently at various times they issued Treasury notes, and that during the period of the Civil War they issued notes which were not interest-bearing, and also the legal-tender notes, our present “greenbacks.”

The question as to whether it is a prerogative of our government to issue paper money is, then, merely a matter of the interpretation of our peculiar Constitution. It does not go to the general question of whether governments can have the right to issue paper money, but to the particular question of whether this government has the right under the Constitution to issue paper money, and that is a question which the courts have decided in favor of the right of this government.

With the banks we come to a different question, in some

respects. The idea of the government paper money is that it takes the place of coin, and that, therefore, if it is on a good basis, it ought to circulate as coin does or do the work which coin does; it ought to go into all the corners of the land where coin will go and do the exchanging work of the country in the same way that coin does. That is the theory of government money.

The theory of the bank-note, historically, is something different; growing not down from the government, but growing up from the people. The idea upon which it rests is that an individual whose own credit, whose own note, will not circulate far enough for him to obtain the things which he needs to carry on his business, can, by going to a banking firm whose credit is larger than his own, exchange his note for the note of the bank, and in this way obtain a credit which reaches far enough to transact his business.

The growth of the bank-note along this line has been such that we have a system of bank-notes with a circulation as wide as the nation in which the banks are situated. That is the condition of our own bank-notes. What status, then, do these notes hold? Are they money or are they notes still of a private firm which have the character of individual or corporate promises to pay? Inasmuch as these notes actually serve all the purposes of coin and of government paper money which is based upon coin, we must regard them as money, in the same sense as we regard the national "greenbacks" as money. They do the main work of money, and we must regard them as money, therefore. But we find that these notes, after all, are generally issued in response to a commercial demand which is local in its nature. You will see that the government money can be issued by the government in payment of its debts, that it passes out into circulation, that it remains very largely fixed in circulation, or, at any rate, that it is much less liable to find its way back to the issuing place than bank-notes proper.

Bank-notes under our National Banking system are probably about as slow in finding their way back as the national "green-backs," but the notes of our banks before the period of the national banks, as you know, would in general circulate only a little way beyond the bank, so they were very soon presented for redemption. The idea of the true bank-note is that it serves a local and a temporary purpose, that it may perform half a dozen exchanges, or possibly twenty or thirty exchanges, but that very soon it finds its way back to the bank for redemption; the idea of the government paper, however, as we have seen, being something different from this.

The next question coming up, it seems to me, is, whether the purposes of this local and temporary credit are best served by bank-notes or by some of the other processes of banking. The statistics of the banking business in this country show that in the country districts the notes serve a much larger purpose, relatively to deposits, for instance, than they do in the city, and that in the city, on the other hand, checks do the larger part of the business. In the city there is a decrease in the use of notes on the whole, in proportion, at any rate, to the deposits. In the country there is probably an increase in the deposits from year to year, yet there is not a corresponding decrease in the use of notes.

If we look at European countries we find quite extensively facts of the same sort. Those countries which are industrially not so far developed, or, at any rate, which do not have the same facility of communication between their parts, which have not learned to shake off their provincialism so far as the English and the Americans have,—in those countries we find that notes play a much larger part, relatively, than they do in England or America. In Germany, even, taking the banks throughout the country, notes outstanding are about three times what the deposits in the banks are.

Can these facts teach us anything? They teach us that in a

country which has not reached a full industrial organization the notes seem to be the most convenient form in which to use credit productively, and that, on the other hand, where, as in the cities, there is a more complete industrial organization, there the use of deposits and checks prevails.

I think there is in this an indication of what the policy in a country should be in that respect. In such a district as the far West in this country, I should say that the bank-notes were of much more importance than in the East and were preferable. In the West men, as a rule, do not have money to deposit in the banks, they cannot carry on their business by checks to the same extent as we do, and yet they must have some means of credit in order to get the materials that they want; bank-notes supply this need. In a country relatively backward in its industry these notes serve a good purpose.

No absolute answer can be given, then, to the question whether our paper money shall be issued in the form of bank-notes or in the form of what we call "greenbacks," direct government issues. There might be a condition of industry in which the bank-note would be the best form, and another condition of industry in which the "greenback" would be the best form. In the English currency, where there are only large bank-notes, none less than five pounds, and where the money of the country is coin, there is no use for direct government issue of paper money, unless, indeed, they wish to displace some of the coin in circulation. Indeed, there seems to be no need even of these large notes in England. With a country organized as England is financially, why can't the use of these notes be done away with altogether? The system of checks on deposits is so far developed in England that it might serve perfectly to supplant note-issues.

In this country, it seems to me, that generally in the East we could dispense with the use of bank-notes without doing any harm to the industries of the country. I do not mean by this, of course, that we could change the system to-morrow from



what it is to-day, but that if we were to change gradually there would be no harm resulting. But there seems to be room yet in a great many sections of our country for this more primitive organization of the credit system,—namely, the issue of bank-notes,—and that by firms who know the local conditions of trade and to whom the local needs of trade are brought home.

Several theories are common in regard to the issue of bank-notes. One theory is that there shall be no system of regulation whatever, except so far as there is a general regulation for the forming of corporations, but that all banking operations, all issues of notes, shall be left perfectly free to individuals. The general argument which we hear urged against that in our country is our own history during the period of the old State banks. It is replied that our previous experience is not a fair refutation of the argument. It is urged that we might have a system of free banking now which would not have the same evils connected with it as formerly. Still, I think that you would not find any strong party in the United States at present wishing to go back to a system of perfectly free banking or banking without governmental regulation, any more than you would find a strong party advocating our going back to that condition where private firms were allowed to issue coins, as Herbert Spencer to this day advocates.

Another theory is, perhaps, best illustrated by our national banks,—namely, a system which is under government control to the extent that the government lays down certain regulations or restrictions as to the issuing of notes, and allows any individual or association of individuals to carry on operations within those limits, the government exercising a regulation, an inspection, a control, to some extent, over the system. Now, the fault of our National Banking system, so far as this theoretical question is concerned, is that the national bank notes are not true bank-notes, because they have the government guarantee behind them. They are made for national circulation as money. They are

virtually a national currency, and are not made to meet the needs of a local and a temporary credit, such as the true bank-note is. They are meant to stay out permanently in circulation, and the note issued in Philadelphia may circulate in California and be just as good in California as it is here. To that extent the National Bank system is not a good type of this theory; but taking from it the feature of the national guarantee of the notes, and having the notes as issued stand upon the credit of the individual bank, would make it practically what this theory claims.

Another theory is not the issue of bank-notes at all, but a monopoly issue of government money, or "greenbacks."

What are the conditions to-day of trade and of industry that would indicate the line of policy for this country? If we look on the one hand, we will see a class of institutions developing in this country, and in other countries too, which brings the use of the credit system within the reach of all classes of the community. The savings-banks, for instance, allow to the wage-earner the advantages of the organized credit system. He can deposit his savings there, receiving a small interest on them, and he can draw them out for use as he pleases. There are various institutions of this sort, some of a mutual character. The building associations and such organizations are along the same line of enabling him to use his credit.

This tendency which we see in the industrial growth of the times, then, is a tendency to a further development of private institutions. If these private institutions can meet the needs, for instance, of the wage-earner, can bring the advantages of the credit system to him; if our banks, in their private business through the check system, can give the advantages of organized credit to every class in the community, so that all classes receive this service, we might say that so far as the needs of local communities are concerned we do not require further governmental interference, or that perhaps we should recede to some extent from our present situation.

On the other hand, we have seen the tendency throughout the world, among the more highly civilized countries generally, to a greater concentration in the hands of the government, to a government monopoly of currency and credit. The great government banks in Germany and in France, for instance, that are so largely under the control of the government that you might call them government institutions, indicate this tendency; and here in this country we have worked towards the same end in another scheme which seems to serve our purpose,—the direct government issue of “greenbacks.”

Again, we find national preferences deciding tendencies. The English people prefer the coin itself; they do not use the paper commonly, as we use it. On the other hand, here people cannot be persuaded to use coin if they can have paper. The consequence is that this country cannot get along without some form of small paper issue. I do not think that our people could possibly be persuaded to get along with a limit like the English, for instance, with no paper money under five pounds, or the German, with no paper under twenty marks, if I remember rightly. The people here want the paper dollar and the paper two-dollar and the paper five-dollar notes, and they cannot be persuaded to use anything else.

The question is, then, How shall these notes, particularly these small notes, be issued? Shall we allow them to be issued by private banks, or shall they be issued by the government? Here in this country we have decided in favor of the government. The government, in one form or another, issues small notes, either as certificates for coin deposited or as direct promises to pay on the part of the government. In the West and the South, the industrially needy parts of the country, the call very frequently takes the shape of “greenbacks,”—they want more “greenbacks,”—and it seems to me, in this respect, the tendency of our people is to look to the government for the supply of its money rather than to any banking system. It is my own opin-

ion that our people are coming more and more to regard the government as the proper issuer of paper money.

The great objection to this, upon the face of it, is that once these notes are in circulation no practical way has been found out yet to control the amount outstanding. It does not fluctuate with the needs of trade, since the government does not control the fluctuations of trade. Since the government does not control trade in other directions, how should it control this means of trade so that it will conform to the actual commercial needs of the country? It is claimed, therefore, that some form of issues by the banks is a better way of meeting this need; but manifestly our national banks under the present system will not meet that need, for the national bank-note currency has the same character, to a great extent,—namely, it stays out. Its amount does not fluctuate readily with the trade needs of the country, so that if you are going to meet that specific need of the country for a more elastic currency which changes with the trade, you will not get it perfectly in our national bank-note system. Neither will you get it in the government issue of “greenbacks.”

A scheme has been proposed in several forms by which we shall have a government commission appointed to watch the state of trade, to keep a careful record of prices, and thus to see when the country needs more money and when the country needs less money, the idea being to keep prices stable, and that the government, by the purchase and sale of certain obligations on the part of the government, shall take in or put out money in such a way as to meet the fluctuating needs of trade.

In the midst of all these conditions it seems very hard to theorize upon the question as to the best means of meeting, in any simple system, these different needs. For the small transactions of every day there can be no question, it seems to me, that what we need is either a coin currency like the English or a government-issued paper money like ours, which is kept at par value with coin, so that there shall be a certain fixed



amount of money which fills up all the ordinary channels of trade. Then as the country becomes more organized industrially, as it is in our cities and in the East generally, there can be no question, I think, that the tendency of the times is towards a banking organization which shall meet that need with the deposit system. But what shall be done with the places where the banks do not reach the need, and where the money does not reach the need? That is the critical point, and I must say that I see no satisfactory solution to that question at present. I think we shall have to leave that to work itself out. At any rate, I shall not try to lay down a policy to meet that need.

I have something here which I think would interest the audience. It is an answer by one of the students in my class on money in the University as to what are the services rendered by banks. This gentleman was an intelligent foreigner, a Japanese. His reply was as follows: "These are the services that banks render: first, issuing notes; second, receiving deposits; third, collecting the claims of creditors; fourth, *unjust discriminations*."

For next week I will give out only one question, which will cover the whole ground. I wish those who write papers to understand that when I give out more than one question I do not require an answer to more than one, and if I give a question which involves several points, a thorough answer to one point is just as satisfactory as an answer to all.

*Question to the class to answer during the ensuing week:*

Should paper money in the United States be issued by private banks or by national banks, or directly by the government?

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DISCUSSION FOLLOWING LECTURE X.

MR. SHERWOOD.—A question has been asked in regard to Mr. Goschen's scheme for one-pound notes in England. I have never seen the details of that scheme, but so far as I understand

it the policy is, by getting the one-pound notes out into circulation, in place of gold, to bring into the banks a large part of the gold which is in the country, and thus to make a better gold reserve in the banks. It is the common experience that small notes do not come in for payment so rapidly as large notes, and there would be very little chance of having the greater part of them presented in case of the approach of a panic. The plan, then, would practically increase the gold reserves of the banks.

The great argument against it, so far as I can see, is the simple one that it would be a long process, probably, to persuade the English people to take paper in place of gold.

We have virtually the same subject before us that we had last week,—another phase of it,—and so, while I would rather have the questions this evening confined to the lecture of this week, yet I will not exclude the last week's lecture at all. I would like to enforce the old rule in regard to speaking,—a three-minute limit, and two speeches allowed to each speaker.

A LADY.—With your permission, I would like to ask a question on that part of the syllabus (page 388) which refers to Lecture VIII. I intended to bring it up last week, but the opportunity did not offer.

MR. S.—What is the question?

LADY.—In the typical arguments of the more-money school and the less-money school there are these statements: The more-money school says, "More money means higher prices, high prices mean large profits to producers, and the prosperity of producers is national prosperity;" under typical arguments of the less-money school it is said, "Low prices benefit consumers." Now, more money cannot, at one and the same time, mean high prices to the consumer and lower prices. There is a direct contradiction in terms and in fact of the two schools. The less-money school objects to more money, on the ground that it will make low prices, which benefit consumers. The more-money school argues in favor of more money, on the ground

that it means higher prices and thereby benefits producers. Now, does not that higher price mean the price relative only to the issuer of money, to the benefit of the issuer of money?—that is, that the exchange value of the commodities that are given for paper money means that consumable commodities are depreciated in their exchange value relatively only to money, and that, therefore, the issuer of money is the one that is benefited, and not the consumer?

MR. S.—You would expect to find a contradiction between an argument for more money and an argument for less money, would you not? The argument which I had in mind on page 388 was this,—an argument frequently advanced,—that with an increase in the amount of money, producers who buy material when prices are lower and sell their product when prices are higher get an advantage. The next step in the argument is that everything which benefits the producing class or the enterprising class of the community is, on the whole, a benefit to the community. My statement has the fault of being too concise, and it does not bring out all that I meant to state there.

LADY.—No; that is not the point. As I understand it, the more-money school wants more money because it means higher prices, and the less-money school objects to more money because it makes prices low and benefits consumers. They must look through very different spectacles.

MR. S.—Why, certainly they do; but the less-money school wants less money because that means low prices, low prices benefit consumers, and since all are consumers, all will be benefited by less money. Here again my statement was too concise.

FIRST GENTLEMAN.—Did I understand you to say that permitting individuals to issue notes is a socialistic idea?

MR. S.—No, I do not mean that; but, in fact, quite the contrary. In the early history of banking in this country, for instance, an individual, or two individuals, or three, could issue their own notes and let them circulate as money; then it came

to be necessary for them to have a State charter, and so on to our more developed present system. Each step in this development is away from individualism and towards socialism in one sense.

SECOND GENTLEMAN.—Do you not think that the proposition in England to restore the one-pound note is an evidence that the Bank of England is put to a stress to furnish the necessary quantity of gold less than twenty-five dollars? If a man wants change, the five-pound note being the lowest note that he can get when he goes to the bank, it is necessary for them to pay him five pounds in gold, whereas if they had one-pound notes, probably they would not have to pay out any gold. Hence it would tend to leave in the bank the gold circulation of the country to that extent. Every individual now using twenty dollars in gold would probably then require not more than five dollars in gold. The Bank of England, when it started, had no notes less than a hundred pounds; hence all amounts below that had to be paid in gold. In course of time they got it down to twenty-five pounds, then finally to fifteen, and again to ten, and then to two-pound and one-pound notes. The one-pound notes were issued in 1797, at the time when the bank wrote to Mr. Pitt a note saying that in his estimate of the budget for that year they wished the Treasury not to call upon the bank for any assistance except what had already been given, and then immediately Parliament made provision for the issue of these one- and two-pound notes. That was the 4th day of March, 1797, and from that day to May 8, 1821, there was practically a suspension of gold payments. Now, for the last year we have seen mentioned in the papers quite frequently that the Bank of England contemplated the issue of the one-pound note again; and then again that Mr. Goschen wishes to have some understanding as to the issue of silver to a greater extent than at present. It seems to me that this is an evidence that there is a stress of gold in the Bank of England and in the country, and that to enable the bank to furnish to the business community and the public



the necessary funds they must resort to this one-pound note or to a larger issue of silver.

MR. S.—I suppose that the leaving of the gold in circulation among the people is, perhaps, one of the best ways to keep it in the country. At least that has been the English policy, and it has been the theory of a good many writers that, after all, the safest gold reserve is to have the largest amount of gold in circulation among the people. It has been the English theory ever since this suspension of specie payments from 1797 to 1821 that has been spoken of. It was thought at that time that the issue of those low-denomination notes—the one- and two-pound notes—was one of the great causes of the difficulty encountered in returning to specie payments in England. That fact, as well as the English preference for gold circulation, explains very largely the opposition to the scheme of returning to one-pound notes.

THIRD GENTLEMAN.—Under the present banking law of England would it not be necessary, if these one-pound notes were issued, that the bank should hold in its reserve pound for pound and dollar for dollar of gold bullion or gold coin? Is it proposed to change that and allow these one-pound notes to be issued without the necessity of holding additional reserve, or is it proposed simply to bring that gold into the bank and let these one-pound notes take the place of them? I suppose that at the present time there is considerably more of the paper of the Bank of England in circulation than is allowed to be out without a gold reserve to cover it; so that if these new notes were issued in addition to the present circulation of the Bank of England, unless the banking law were changed, it would be necessary for them to withdraw as much gold from circulation as they put paper into circulation, and if that was done, I do not see what advantage in reference to small change and those other things would be accomplished at all; in fact, I do not see how anything could be done for the better. It seems to me it would be simply the issue, really, of a gold certificate. It would be the

same thing as when our government issues a gold certificate and keeps gold in the Treasury, unless it is proposed to change the banking law in that respect.

FOURTH GENTLEMAN.—The Bank of England issues no notes in excess of the gold reserve it has on hand. It cannot issue a pound over and above the gold reserve it has.

MR. S.—No; the present law requires that, except in certain emergencies; but, as I said, I do not know the details of Mr. Goschen's scheme, or whether it is proposed to change the banking law in respect to the required reserve. I should think that an advantage would be gained by it even in case the law were not changed in that respect,—namely, that these notes, as I have already said, would probably stay out in circulation longer than the large notes, and would be less liable to be presented. That is the usual experience in regard to this matter; small notes are not apt to come in for redemption, so that it may practically increase the gold reserve even though the banking law were not changed.

THIRD GENTLEMAN.—I do not see how this issue of one-pound notes can affect the reserve of the Bank of England, simply because all the gold that is deposited is deposited in the issue department. The reserve that we hear about is in the banking department, which is a different department. If four million five-pound notes or twenty million one-pound notes are issued, there are merely twenty million pounds in gold deposited in the issue department, which cannot affect the gold reserve of the banking department. It has to be held to redeem these one-pound notes when presented, and so it cannot affect the reserve. The reserve we hear about is the reserve of the banking department, which is affected by deposits and discounts, and so forth, and not the issue department.

MR. S.—We are speaking of the reserve in the issue department. It would practically make more gold which could be used for the redemption of notes, if necessary, because relatively fewer notes would come in for redemption.

FIFTH GENTLEMAN.—Isn't the idea that it is a good thing to keep the gold in a country a remnant of the old Mercantilist theory, which, at least, is supposed to have been exploded by the present school of economists?

MR. S.—Yes; I should say it was in line with that theory; but the idea back of it in the present application is, that the gold is there to be drawn into use if an emergency arises creating a great demand for gold.

FIFTH GENTLEMAN.—Well, shouldn't the demand for wealth be counted more than the demand for gold? Isn't that identical with the idea that money or gold is the only form in which wealth can exist?

MR. S.—Yes; but then there is the necessity of meeting a monetary stringency. Banking requires a certain amount of wealth in the form of gold, and that must be kept available.

FIFTH GENTLEMAN.—There is another thing. You spoke to-night of a proposition which has been made by some one to appoint a commission to watch the prices in order to adapt the volume of money to the needs of the country,—that is, to keep prices as nearly as possible constant, by inflating or restricting the volume of money. Now, that is a proposition which I have frequently heard or read of. Is that proposition not based on the mistaken idea that prices are inversely as the volume of money, other things equal,—that mistaken idea propounded by Ricardo and John Stuart Mill and held by General Walker, by Newcomb, and a number of others? Is it possible to regulate prices by increasing the amount of money? I do not mean by issuing fraudulent notes, by issuing more notes on the same amount of wealth and thus depressing the value of the note, but by actually issuing more money. Isn't that proposition based on that mistaken idea?

MR. S.—Well, if you want me to commit myself to saying that this is a mistaken idea, I do not care to answer you by a simple *yes*. If you want to ask me whether it is possible for a

government commission to do the thing proposed, I should say I think it very doubtful.

SIXTH GENTLEMAN.—I would like to ask a question which I think is a hard one to answer, and which has been a great puzzle to me. If you cannot answer it, perhaps some gentleman in the banking business present may be able to do so. Why does the United States government attach the legal-tender quality to certain issues of notes and not to others?

MR. S.—Will you specify in particular what notes you have in mind?

SIXTH GENTLEMAN.—It has been stated here in the syllabus that the only government notes not possessing the legal-tender quality are the silver certificates issued in accordance with the law of 1878, which provided for the Bland dollars. The silver certificates, then, have no legal-tender quality. You can compel a creditor to take the silver dollars themselves, but you cannot compel him to take the representative paper dollars.

MR. S.—The gold certificates are in the same category. I see no good reason for it, and I do not know that I have ever seen a reason stated. Is there any one in the audience who knows what was the policy of the government in that respect, or whether it was an enactment without policy?

SECOND GENTLEMAN.—The gold and silver certificates are legal tender, are they not?

MR. S.—No, they are not legal tender.

SECOND GENTLEMAN.—They are not a legal tender? I know they are not called legal-tender notes; the United States Treasury note is what is specially called a legal-tender note, but, of course, the gold and silver certificates are based on that amount in the Treasury, and why are they not a legal tender?

MR. S.—You are not obliged to accept them unless you choose.

SECOND GENTLEMAN.—Well, you are not obliged to accept a bank-note.



MR. S.—No; the bank-notes are not legal tender.

SECOND GENTLEMAN.—The gold and silver certificates are receivable for public dues, customs, all obligations on the part of the government, and it seems to me that they are receivable in private transactions, that all individuals are obliged to take them. Of course all that currency is based on the idea that it will be redeemed when presented to the sub-treasury in sums of fifty dollars.

SEVENTH GENTLEMAN.—The law of 1890 made those notes a legal tender which have been issued under it, and it also gave the legal-tender quality to those that had been issued before, under the law of 1878.

MR. S.—You have not a copy of that law with you, have you?

SEVENTH GENTLEMAN.—No.

MR. S.—Well, I am positive that you will find that the legal-tender quality has never been given to these notes.

SECOND GENTLEMAN.—The Constitution of the United States says that nothing but gold and silver shall be legal tender in the payment of debts. Now, all this paper money that we have is based upon the theory of its redemption when presented to the government. If you have a five-dollar or a ten-dollar note, or a national bank note, and you go to the bank, they are obliged to redeem it, or, if not redeemed there, it can be sent to the government, and will be redeemed in sums of fifty dollars.

MR. S.—There is a difference between the right of redemption and the legal-tender quality. Take our bank-notes; they are not legal tender; although the banks of the United States will redeem them, you cannot force them in payment on an individual.

FIRST LADY.—You said that the great objection to the government issue of money—paper notes, I suppose—was the not being able to make the volume of money fluctuate with trade. Now, assuming that you mean legitimate trade, or that trade which arises from the fact of commodities seeking exchange,

why should there be any difficulty? If it is really legitimate trade, the commodities seeking exchange would, by the very nature of the process, settle the volume of money themselves. Again, I have seen it stated as a principle in monetary science that that volume of money will circulate without giving rise to the phenomena which indicate redundancy of currency, which does not exceed the cost of its production to the producer; and as paper money costs relatively nothing, it seems to me that, taking this principle in monetary science, we might have a very much larger volume than we have now, and I would like to know why it is that our economic controllers neglect totally this monetary principle.

MR. S.—The point which I stated in regard to that fault of the government issues is based upon this fact, that the structure of our Treasury system is such that the government has no way of getting the money out into circulation except by the payment of the dues or the obligations of the government. A bank, on the other hand, can issue notes as loans to individuals in the course of trade. Now, if you had a department of the government doing that sort of thing, then, of course, the government would have a practical way of increasing the amount of money and influencing it so as to in some way adjust it to the fluctuations in trade.

FIRST LADY.—Well, but if the government really and if the people really desired to do it, would they not find a means by which they could get the money out? Certainly, men are sufficiently fertile in their efforts and methods by which they interfere with the natural activity of economic principles, and I do not see why they should not be equally fertile in methods which would aid the natural activity of those principles.

MR. S.—Hitherto the answer of the government to that question has been that the needs of the country were better served by giving certain corporations the right to issue notes. Of course it can be fairly argued that it would be better to have a

department of the government organized as a banking department, and so have the matter done directly by the government. That alternative has a great many points in its favor.

FIRST LADY.—If I understand you correctly, it is well stated in the syllabus that one great object is stability of prices. Now, under our present banking system we have not stability of prices, and, therefore, it seems scarcely reasonable to expect it from the bank system, and there ought to be some other method which would secure stability of prices.

MR. S.—It must be granted that our system is defective. Some readjustment of the old machinery or the erection of new machinery is necessary. We have not reached the ultimate condition yet.

EIGHTH GENTLEMAN.—One thing strikes me about the government regulation of prices. There is a union among the men who sell coal, outside of the Pennsylvania Railroad, and I see by this morning's paper that the Pennsylvania has knocked prices down twenty-six cents below what the others will carry it for. I think if the government at Washington tried to regulate the prices of freight it would have a difficult task.

MR. S.—Of course the idea is not that the government would be a formal party to every contract to say what every man should sell for, but only that it would make the volume of money in the country such that the price of each commodity would adjust itself to a normal level. That is the argument.

NINTH GENTLEMAN.—If the volume of currency in this country were doubled to-morrow without increasing the gold issue, would it have any effect at all upon prices?

MR. S.—That would depend on whether you mean gold or paper prices.

NINTH GENTLEMAN.—I mean prices in the sense of the value of commodities expressed in dollars. Would the selling value change, provided there was no increase in the gold issue?

MR. S.—I should say it would.

NINTH GENTLEMAN.—In what way?

MR. S.—You can see an illustration of that in war prices. They went up in some rough way proportioned to the increase in the volume of currency.

NINTH GENTLEMAN.—Well, but those were the days when the government refused to accept its own money, you know, and we do not do that now.

MR. S.—Perhaps the government would if it were to double the amount of paper money in circulation with the same amount of gold.

NINTH GENTLEMAN.—Then the item that would come in to raise prices in the case that I gave is the fear that this money would depreciate, that it would fall below standard by the inability of the government to redeem it.

MR. S.—Yes, it is the inability to redeem, or the fear of the inability, that makes a paper currency depreciate.

NINTH GENTLEMAN.—I do not want to ask more than my number of questions, but I will ask one more. Those people who are demanding an increase in the volume of currency are not doing it with the idea that the uncertainty of the government redemption will affect prices, are they? It is simply of the volume of currency that they are talking.

MR. S.—They assume that the paper money will be redeemed at its face value. That is an assumption lying under their argument.

NINTH GENTLEMAN.—I won't ask another after this: Is there any truth in Mill's statement that doubling the amount of money doubles prices?

MR. S.—I should say that as an ideal statement there is. By that I mean if you could keep everything else just the same. Now, as an illustration: suppose you have a bushel of wheat and at present that bushel of wheat is worth one chair. Suppose that upon that basis exchanges are made. Again, suppose you have two chairs instead of one to be balanced off against your



wheat. Your chair, in the second instance, is worth only half as much wheat as it was before. That is the idea which Mill has in mind. You have such a bulk of gold, and there is a certain amount of commodities which have to be exchanged by means of this gold. That makes a certain value relation between the gold and the commodities. Now, if you double the amount of gold, the commodities remaining the same, and the exchange work remaining the same, then each unit of that gold will be worth half as much as it was before. That is his statement. It is an ideal condition of things which could never be practically realized, you see.

TENTH GENTLEMAN.—Do you think the fact that money is loaned at very low rates is any evidence of there being too much money, or is it rather an evidence that the rates charged have been too high for borrowers to pay and that they were lowered?

MR. S.—Well, I should not consider it an evidence that there is too much money. The real rate of interest is fixed not by the amount of money, but by the amount of capital.

FIRST GENTLEMAN.—Professor, isn't it evidence that there is less demand for money, and people will take a less rate of interest for the purpose of getting it into circulation or doing a discount business?

MR. S.—But that would not go to show that there is too much money in the country. It may show that certain institutions or certain men have more money than they want to use themselves, but it would not show that there is too much in the country.

FIRST GENTLEMAN.—It would show that, at the time being, there was more money than necessary.

MR. S.—Yes, more than was necessary for the holders of it.

FIRST GENTLEMAN.—But if it should continue for six months or so, wouldn't it be an evidence that there was too much in the

country, and that people would take less interest for the purpose of receiving some profit?

MR. S.—I should not grant that.

FIRST GENTLEMAN.—Isn't it an indication that industries are at a stand-still? Now, there is at present a glut of money in the banking institutions. They cannot loan it out at three per cent. on call. All the institutions, probably, have a great deal of money. Isn't that an indication that the money is not being used in industries, and that our commercial interests are dwarfed?

MR. S.—Yes; it may be an indication that the money is not in the hands of the people who know how to use it best,—that, if the sum of money which is heaped up in the banks could be transferred, as you intimate, to places where the trade called for it, it would not be redundant at all and could be put to good use there.

TENTH GENTLEMAN.—It seems to me this way: that when the rates are too high to enable trade to be conducted, under those conditions capitalists are unable to loan their money in hand, and when loans already made run out they are not renewed, and that then they put down the interest to get parties to take the money. It is impossible to conduct business on the existing rates. They are now holding out money at low rates in order to get borrowers, and it seems to me that if borrowers could get it for no interest, money would easily go out into circulation, and that, therefore, it does not prove that there is enough money, or too much, or anything of that kind.

FIRST GENTLEMAN.—How will the gentleman answer the question that you can't loan it at all?

TENTH GENTLEMAN.—Did any one ever try to loan it without interest?

FIRST GENTLEMAN.—No; but it is offered at only nominal rates.

TENTH GENTLEMAN.—For long loans?

FIRST GENTLEMAN.—Well, not for four or five years.

TENTH GENTLEMAN.—Well, there may be a temporary stagnation.

FIRST GENTLEMAN.—They are practically long loans,—they can remain, say, a year.

TENTH GENTLEMAN.—On mortgage?

FIRST GENTLEMAN.—Oh, no, not on mortgage; mortgages are not commercial loans; commercial loans are short paper, say three or four months.

TENTH GENTLEMAN.—But mortgage loans are very commonly made in business.

FIRST GENTLEMAN.—But that doesn't meet the demands of trade.

## LECTURE XI.

### THE BATTLE OF THE STANDARDS—BIMETALLISM—THE SILVER QUESTION.

LADIES AND GENTLEMEN,—The subject for to-night is not merely one of especial interest at this time, but it has been in some form a vital question in the monetary world for about two hundred years.

A strange fact in the history of mankind is the fascination attaching to the precious metals, silver and gold. It is characteristic not only of savage life, but of civilized life as well. It is, upon one side of it, a very curious mark by which to distinguish the human animal from all other species of animals,—this desire for ornament, this passion for something which has no other use than mere possession. It seems to be a universal passion in the heart of the only animal on the earth which has intellectual capacity to rise to higher and better things.

In one respect we must contradict the old adage that the love of money is the root of all evil, for we see in the history of man that it is this same love of money, this desire for the precious metals, which has been one of the most powerful motives in the conquests which men have made over weaker men and over nature itself. By this I do not mean to justify in any way the cruelty and the rapacity and the greed which have marked the conquests by stronger men over weaker. I only mean to point out how that power which guides the individual and the races of men, whether we call it God or whether we call it Nature, uses the passions which are in men for the advancement of the race itself and for higher ends than the men themselves are conscious of who feel the passions. And I also mean to point out how the germs of progress lie in the very appetites and desires of men,



and how, in order to understand the economic life of society, we must study first of all the physical and psychological constitution of man. If now, leaving the use of gold and silver for ornament and fine utensils, which rests upon the human artistic sense, we look more particularly at the money use of these metals, we see that the subject is no less interesting and is of even greater importance. A law of progress in monetary matters has already been hinted at: a progress from the use of a cheaper and a meaner metal to a more costly and a finer metal. We have seen that some nations have used iron as money; we see now in use, even among the civilized nations of the earth, three different metals, copper, silver, and gold.

Two hundred years ago there was relatively very little gold in use as money; the standard of the nations was silver. In England the gold guinea, the first really important modern gold coin, came into use in 1666. The question of bimetallism was alive to some extent then, for while silver was the standard it was necessary that the guinea should be rated in some way with reference to silver, so that it could be commonly used among merchants. The method of rating gold to silver at that time was by a royal proclamation, which altered the ratio from time to time according as the market value of gold in silver changed.

At the time of the recoinage in England, in 1696, silver was maintained as the standard. It was argued by John Locke, among others, that of the two metals silver was the better standard, and that there could not be a double standard at the same time; that the second metal must be simply rated from time to time at a certain ratio to the unit of standard money.

In 1816 England changed from the silver standard to the gold standard. But the English law did not leave silver in the same position in which gold had been before. Gold had been before full legal-tender money at the proclaimed ratio and the mint had been open to the unlimited coinage of gold; but by the law of 1816 silver was made a legal tender in limited quantities only,

and was designedly made of less metallic value than its nominal value, so that practically it became a token-coin.

This is an illustration of the progress which I have spoken of, from a cheaper to a dearer metal. What is the reason that when a nation is commercially advanced it wants a more costly commodity to serve as the medium of exchange? It has been sometimes urged that there is a necessary relation between the quantity of metal which is in the monetary unit and the value of a day's labor or a day's wage. We can easily see, for instance, the awkwardness of the condition of things in our country to-day, where the silver dollar is too cumbersome for use and the gold dollar too small. We can see, therefore, that the more valuable and more costly metal is better suited for a nation which is highly developed, where payments are large and business is vaster, than is the cheaper metal, and that, on the other hand, gold would be out of place among a nation commercially less developed. We can see a fitness in things that silver should serve as the principal money in India and in the greater part of Asia, where the value of a day's labor is so much less than it is in Europe and in America. Just as iron, with the development of industrial civilization, has gone out of use as money, and as copper has practically disappeared from the list of money-metals, so, it is argued, silver is destined likewise to pass away as a principal money.

These facts are elements which make this an interesting and important question to-day. But there are other elements no less important in this problem. The present policy of the chief commercial nations is one of these. England's policy we have already indicated,—a gold monometallic standard, with silver as a token-coin. France, on the other hand, at the beginning of this century, adopted a bimetallic standard, gold and silver being freely admitted to the mints at the ratio of one to fifteen and a half. That policy has been maintained without change down to 1873.

These two nations stand as the types of the two policies,—England, monometallic; France, bimetallic. The United States were practically a bimetallic nation during that same period, but did not fully co-operate with France, because they coined gold at a different ratio. Most of the other European states had a silver standard during this period. Since 1871 Germany has had a gold single standard. Although there is a great deal of silver money of full legal-tender value in Germany, yet the standard is gold, and the policy is to go completely to a gold standard. Austria, too, is taking some steps in the same direction. England still clings to her policy, and we have seen that France in 1873, with the other nations of the Latin Union, limited the amount of silver coinage. So that now, as a matter of fact, all the chief commercial nations of Europe are practically on a gold basis.

On the other hand, in the East, in Russia, in Mexico, and in South America the silver standard prevails. If we were to judge by the population, we should find that about two-fifths of the world's population are still using the silver standard, and that only about one-sixth use the gold standard, and that a small fraction—about an eighth—are using a double standard. To judge by numbers, then, the vote would be in favor of silver.

In what I shall say to-night I cannot hope to do more than merely state the issues of this question. You must not expect any exhaustive argument upon the subject. The facts of the production of gold and silver in this century present other items which are of interest and importance to us. In 1848 and 1851 there was an enormous gold production from the Californian and Australian mines, and then, about twenty years later, an enormous yield of silver began to come into the world's commerce from our own mines and also from Mexico. The quantity of silver in the world is estimated to have quadrupled in the last thirty years. The quantity of gold, if I mistake not, doubled in about fifteen years following 1850.

Another fact, likewise, which presses this question of the standard home on us is, that during the last fifty years there has been a marvellous extension of international trade. This growing internationalism of trade is a factor of the greatest importance in determining this question.

In the United States the question is one of peculiar importance, from the fact that they are a large silver-producing country, as well as a gold-producing country. The question, therefore, comes up of extending protection or a bounty to the mining industry in this country. It is urged on the part of a great many people that, since silver-mining is a most important industry of this country, it should be fostered in the same way that other industries have been fostered. But this is simply a question of national policy, and as such entirely apart from a broad scientific discussion of the bimetallic question.

So far as the commercial relations of the United States are concerned, they have a large and important trade both with gold-using countries and with silver-using countries, so that they have a patent reason for a bimetallic currency, in order that they may with equal facility deal with both sets of nations. This fact creates a strong presumption in favor of a bimetallic policy.

Another side of the question in the United States is this: the large obligations of the United States government were assumed by the government at a time when both gold and silver were the standard money of the country. It might, then, be very reasonably asked, Why should we go over to a gold monometallic standard and leave the government to pay the holders of these obligations in a money which is of far greater value than the promise at the time in which it was made? I say this is a question which we must consider in our national policy, whether, for the benefit of the holders of our national obligations, we as a people shall pay more than we have promised to pay. We often hear it urged that our silver legislation is a fraud upon creditors under previous contracts, because it leaves them liable to be paid



in money of less value than the money which was contracted for.

Now, in honesty we must also say that if the government of the United States pays its contracts in a better money than was contracted for, this becomes, by the same reasoning, a fraud against the people, for they have to pay these obligations. If one is a fraud the other must likewise be a fraud. But it seems to me a great mistake to apply any such epithet to the policy in either case. The contracts were formed at a time when both gold and silver were money; it was agreed to pay in coin. Now, in the absence of any specific provision in the contract as to which of these metals should be used in payment, it is perfectly open to the government, if it so chooses, to cut off either money, so long as it pays in the money agreed upon. The point that I wish to make is, that whether we cut off the cheaper money or whether we cut off the dearer money makes no difference as to the justice of the action.

There is another peculiar condition in our country which forces this question into prominence: the fact that in different sections of the country there is a comparatively poor and enterprising people in the face of unusual opportunities for the exercise of their productive power. As always happens in such circumstances, these men clamor for a larger circulation of money; so that there is brought into this bimetallic controversy the political pressure of a party who simply want more money in some shape. Whether it is paper or silver or any other kind of money is not of importance to them, so long as they get more money. In that way the silver question in the United States becomes a political question, apart from the general bimetallic controversy; and therefore, as you see it indicated in the syllabus, I will pass over from the silver legislation and the silver policy of this country to the larger question of bimetallism proper. I do this the more readily because the peculiar situation in the United States has been discussed so much lately that we do not need to

give any particular attention to it, and besides it brings in a lot of considerations which do not come into the broader question of bimetallism.

What is meant by bimetallism? It is the policy of using both gold and silver as money, the mints being open to the free coinage of both these metals, and both kinds of money being full legal tender. There is also this requisite, that by law there shall be a fixed ratio between the units of these two coinages. All of these elements are necessary to real bimetallism. Hence the situation in the United States to-day, in which there is free coinage of one metal and not free coinage of the other, is not bimetallism, although both moneys are made full legal tender.

We have seen, from the short historic survey which we have made to-night, that modern bimetallism is older than modern monometallism,—that is, the common use of the two metals among nations generally existed earlier than the conscious adoption of a single standard. We have seen that England has led the way in the adoption of a single standard. When England did this in opposition to the policy of France, it became a question of scientific interest more than ever, growing out of the practical problem which agitated European countries, as to whether the other nations should follow the lead of England and go over to a gold monometallic standard, or whether they should follow the lead of France and keep the bimetallic basis.

Those who take up the side of the bimetallic standard have urged several advantages for this scheme. One of their most important arguments is that the two metals make a more stable monetary standard than either one alone. A classic illustration of this point is very well presented in one of Jevons's chapters. It is this: Imagine two reservoirs of water entirely unconnected with each other, the source of supply to each reservoir entirely distinct from that of the other. If there is an increase or a decrease in the supply of water to one reservoir this will not affect the amount in the other, but each will rise or

fall by itself. If now a connecting pipe is introduced between these two reservoirs, then every change in the level of water in one reservoir must also change the level in the other reservoir. The advantage of the connecting pipe is that it prevents a violent change. If this increase or decrease were confined to one reservoir simply, it must raise or lower the level in that one a great deal more than if it were distributed through both reservoirs by means of the connecting pipe. The pipe makes a nearer approximation to a stable level. That is the argument in regard to gold and silver. Gold and silver undoubtedly have different sources of supply, and to a great extent there are different sources of demand for gold and for silver, and consequently it is to be expected that they will not naturally rise and fall in value together; there may be a discovery of gold at one time and of silver at another time; there may be some unusual demand for gold at one time and for silver at another time, so that they will not, if left to themselves, keep along at an equable ratio to each other.

But the argument is, that if by law they can be connected so that there will be a fixed legal ratio between the two, this will bring about the condition which we have illustrated by the reservoir,—namely, that any change in the value of one metal, instead of being a violent change, as it would be when confined to the smaller mass, becomes a less violent change because it is distributed over the mass of both the metals. It seems to me that this is a theoretical position to which there can be nothing but assent given. I think there can be no doubt that if the legal ratio can be made a fixture, if the law can maintain that ratio between the two, then there will be a much more stable measure or standard of value than with either metal alone.

An argument, on the other hand, would equally be suggested by this illustration, that although the fluctuation may not be so violent in case the two are joined, yet the fluctuation will be more frequent, because it will be affected by whatever affects the

value of either metal. If you look in Jevons's book you will see how he has traced this out by a wave-line, and how in that case, if both metals are joined together, a more frequent variation results, but a variation not so violent. In other words, the measure of value is more stable; it keeps more nearly to the median line than with either of the metals alone.

The other advantage which, it seems to me, we could look for from bimetallism is this: that inasmuch as trade exists between the gold nations on the one hand and the silver nations on the other, and inasmuch as it is advantageous for both to have mutual commercial dealings, it is of great importance that they should have what is technically called a "par of exchange" between silver and gold, so that in all international business there shall not exist this element of uncertainty as to what, in a silver-using country, the gold of a gold-using country is worth. You can easily see that in trading with a country like India, where it requires so long a time to realize upon the goods sent out, if there were a fluctuation between the gold price at which things are sold here and the silver price at which the return goods are bought there, during that time a merchant might lose all the profits of his venture, merely from the fact that it could not be estimated beforehand what the value of silver in gold would be. But if, on the other hand, a stable ratio could be maintained between the two, then it would be practically the same as though there were but one metal used as international money.

Now, these being the advantages which are claimed, we will take up the monometallic line of argument, as to whether these advantages can be realized. The first great argument of the monometallists is that law cannot maintain this ratio; that whatever advantages might follow from such a scheme if it were tried, it is yet an ideal which law cannot practically realize. In other words, they say that the value of gold and the value of silver are fixed by natural causes and not by law, and that therefore law cannot by any means maintain two commodities at any fixed value-ratio to



each other. It seems to me that this argument is urged to an extreme. We have seen that law can affect the value of money by influencing the demand or by influencing the supply, as the case may be; that the use by a nation of a new material for money, for instance, will create a new demand for that material and raise its value in the markets of the world. No one can deny that the action of the several governments at or about 1873, disparaging silver in relation to gold, and announcing the policy of making gold the single standard of value and of making silver only a subsidiary currency, did, as a matter of fact, cut off a large part of the demand for silver, and was one of the chief causes which led to the decline in silver. It is also true that the enormously increased production of silver was also another cause which led to that decline. But this change in the policy of these several governments, coming at the same time, was an element no less potent. No other fact is needed to refute this argument in its extreme form.

Another argument of the monometallists is that, as a matter of fact, there will be only one standard at a time in any case; or, in other words, that granting the claim that law can keep these metals at very nearly the same value-ratio, yet there will still be enough difference to cause one metal to leave the country, obeying Gresham's law, so that the country will be left with the poorer metal. That argument, so far as it concerns national bimetallism, was illustrated very well in the history of France. France is always cited as the great argument for bimetallism, and yet we see that from the influx of gold after the discovery of the California mines the French silver money was actually driven from circulation to a great extent, and replaced by the cheaper gold. Even in that instance, which is the trump card of the bimetallists, you find that the law did work as the monometallists claim, to the extent that the dearer metal was driven out of the country and was replaced by the cheaper metal.

Now, we shall have to go hurriedly over to another aspect of

the question, and that is, whether it can be reasonably supposed that one nation single-handed could maintain a bimetallic policy. The history of France, as I have said, is the great instance. It is a very strong argument for the bimetallic scheme, the fact that France, practically alone, should have maintained this policy for seventy years; should have opened her mints freely during all this time to the coinage of silver and gold, and allowed them to come in from every quarter of the world, and that notwithstanding the doubling of the amount of gold, the premium on silver at no time advanced more than three or four per cent.

But that fact is not conclusive, in my opinion. The success of the French policy can be explained to some extent by the fact that under the peculiar conditions of that time there were quite a number of important European nations—Germany, for instance—which were using a silver standard, while, on the other hand, England created a demand for gold. Thus, taking into account also other demands, especially the demand in the East for silver, there was a sort of equilibrium in demand for gold and silver maintained which enabled France to carry out her policy without great loss. But the moment that equilibrium was broken, the moment that Germany joined with England in her gold monometallic policy, then France was unable to maintain her plan, and in connection with the Latin Union announced that she must recede from the policy. This Union had to limit the amount of the silver coinage that it might not drive out the gold.

Therefore to the question as to the possibility or the probability of one nation maintaining a bimetallic policy, we, for all the light we have now, shall have to answer in the negative, that it would be an unwise thing for one prominent commercial nation to enter upon such a policy. Still, there is a great deal to be said upon the other side, as you all know from the agitation in the present Congress.

Going over to the question of international bimetallism, we find that the bimetallists have another and a stronger position

yet. They claim that if the chief commercial nations of Europe and the United States should unite in an agreement to maintain a bimetallic policy, they would practically so monopolize the supply of gold and silver and so control the demand for gold and silver that they could keep the two metals at this fixed ratio. They claim, for instance, that, having this agreement established between the different nations, if one metal, from a new discovery or an increase of any sort, should tend to swing away from the other metal in value, then the demand for the cheaper metal would increase, both metals being legal tender, and this would bring it back to an equality in value with the other. That is, given now a tendency for one metal to become cheaper than the other metal, then people who had debts to pay or payments of any kind to make would create an increased demand for this cheaper metal, and so would bring it back to its parity with the other metal. That is the argument. It would be practically an enormous *trust* composed of the principal commercial nations.

The discussion now takes on a difficult character. The statistics, for instance, are so vast and the points in the question are so involved, that it is very hard to come to any rational conclusion upon the matter other than purely theoretical conclusions based largely on general principles without specific facts. For instance, besides the arguments which I have mentioned, it is urged in behalf of this scheme that these nations would virtually control the demand for the metal, and hence that the dearer metal would have no escape in case one metal became cheaper than the other, and that therefore Gresham's law could not act; so that there would be in force the double action of an increased demand for the cheaper metal and a lessened demand for the dearer metal, tending to bring their values together much more quickly.

Upon theoretical grounds I have no hesitancy in saying that I think such a policy could be maintained. If, for instance, England and Germany and the United States and these states of the

Latin Union—France, Belgium, Italy, and Switzerland—should form a combination agreeing to a bimetallic policy to maintain a certain ratio, be it fifteen and a half or be it eighteen or be it what you may, within certain extreme limits, I have no doubt that this agreement could be maintained, and that under the present circumstances of international trade, where both silver-using countries and gold-using countries have dealings together, the maintenance of this double standard would be of enough importance to warrant an international agreement.

But another question comes up at this point,—namely, is it possible to obtain an international agreement? That is the rock on which at present all bimetallic schemes split. It has been tried again and again, and we seem to be no nearer the adoption of such a policy than before. We seem to be rather moving away from it. For instance, since the last international monetary conference Austria is going as fast as possible over to a gold basis. We even hear rumors of the Latin Union—what is left of it—breaking up, which was a combination with the express object of maintaining silver in use as a principal money. There seems to be of late a movement all along the line in the direction of gold monometallism.

On the other hand, the party of bimetallism in this country is still a very live one. The United States, as a nation, are practically committed to a bimetallic policy, if an international agreement could be obtained. You probably noticed in the papers of to-day the declaration by President Harrison that he was in favor of international bimetallism if it could be brought about by such an agreement, and that he was in favor of the bimetallic policy. You find besides this that there is a strong movement in some parts of England to restore silver, partially at least, to its former condition,—to take a step in the direction of bimetallism,—and I suppose there is no doubt that France would be willing at any time to enter into any fair agreement which would secure again the bimetallic circulation.



In regard to England, I remember seeing within a day or two in the papers that the Chamber of Commerce in London had sent a request to Mr. Goschen and Mr. Balfour asking that some steps might be taken towards an international conference ; so that it will be seen that this movement for the restoration of silver is, to some extent, a wide-spread movement and one of considerable strength. It is very strong in the United States and of growing strength in some circles in Europe. Whether this present silver movement will lead to a change in policy is a question that is only for the future to determine, but it seems to me it is very problematical, and I doubt whether we shall ever come nearer such a scheme than we have already come. And what makes this more doubtful is that we have come to do away with metallic money to such an extent in actual use that it would be very difficult to convince a large part of the men who control the monetary affairs of the leading commercial nations that there was any need of an increased metallic circulation. Without the support of that class of men I do not see how any plan for an international agreement could ever be carried through.

There is one more phase of this matter which I would like to call attention to. Suppose we get an international agreement for bimetallism ; suppose the scheme works as claimed by its advocates and thus provides this par of exchange, enabling us to carry on trade with both gold nations and silver nations upon an equal footing, and giving us a more stable measure of values ; is that going to solve the monetary problem ? Do we really find a solution of the greatest difficulties of our monetary system by such a measure ? It may be a good dilatory measure, it may have a value for the time in shoving off the day when we shall have to consider these other questions more earnestly than we do now, but that it is an ultimate solution of the monetary question I do not think that its most ardent advocates could claim.

*Questions to the class to answer during the ensuing week :*

1. What are the theoretical advantages of bimetallism ?
  2. What obstacles are there in the way of international bimetallism ?
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DISCUSSION FOLLOWING LECTURE XI.

MR. SHERWOOD.—We have discussed the questions of paper money and banking to such an extent that I think, unless there is some very important question further along that line, we had better confine ourselves to the subject of this evening. It will get us over to a fresh subject, and perhaps we would not bring any further light upon the other questions which we have already discussed so fully.

A GENTLEMAN.—You ask, Mr. Sherwood, what we think is the chief stumbling-block, really, to a restoration of a bimetallic standard. Do you not think that if England alone consented to it all the other European nations would, and hence is not England alone the great prevention, really, to a universal bimetallic standard ?

MR. S.—Well, I should not like to prophesy on that point as to whether the other nations would follow the lead of England. I doubt very much if Germany would change her policy. Germany made such an effort to change over to the gold policy that I doubt very much if she would follow England implicitly in this matter. I think France would be ready at any time to go back to the old way.

FIRST GENTLEMAN.—I do not understand that Austria-Hungary has yet changed her policy. That country is on a silver standard. A committee has reported in favor of a change, but whether the Imperial Diet has done anything towards it I do not know. But to effect it they would have to purchase about forty millions of gold, it is said, to really be able to adopt a gold standard.

SECOND GENTLEMAN.—How long ought we to continue on our side to try to keep up this standard and persuade other nations to adopt it? I believe there is a law in this country against cornering grain or any of the necessities of life, and if we are using, say, fifty millions a year to enable one portion of our country to corner silver and drive the nations in Europe to pay more for their silver, I think we are engaged in rather an illegal operation. Again, I do not know that I ever heard of trying to fight a battle as we are doing this. We hear of a great many finance companies that try to manage things, but to my knowledge, as a general thing, they do not put million after million, year after year, on a falling market, without a customer in sight. The question arises to my mind, how soon we should have a bill passed through Congress to stop the piling up of fifty or sixty millions a year in the cellar when there is no buyer in sight.

MR. S.—The question as to the present policy of the United States is not really a question of bimetallism, for the policy of the United States under the present law is not bimetallism.

SECOND GENTLEMAN.—It is looking in that direction.

MR. S.—I do not know. It is theoretically looking in that direction, but I do not see that it practically comes any nearer. I do not see that it is fitted to secure the advantages that bimetallism would give.

SECOND GENTLEMAN.—Then it is important to have a change made.

MR. S.—Of course it is a question of policy, an estimate of chances as to whether the other nations can be forced to come to the bimetallic plan. If that is to be given up as hopeless, then it seems to me we ought to get some change in our law.

THIRD GENTLEMAN.—I would like to ask a question in regard to single or double standard. I think you stated in the lecture to-night that after England had adopted the pound as the standard unit of value, Locke claimed that only one metal could be a

standard,—there could be only one standard at a time, and that such a thing as a double standard was an impossibility. That was your statement, was it not?

MR. S.—Yes; he argued against the practicability of a double standard.

THIRD GENTLEMAN.—Well, in reading Jevons I find that he takes the same position, and if you will allow me I would like to refer to a few authors who take the same position that Locke did over two centuries ago,—that is, recent writers. One of the leading ones is Mirabeau, the great French statesman upon whose memorial the French law of 1803 was based; he took the identical position that Locke did,—that only one standard was a possibility. Then in our country Secretary of the Treasury Gorham, under President Jackson, in 1834, took that position. At the present time United States Senator Sherman takes that position, and the same may be said of Hon. William D. Kelley in 1873; and you find Jevons, in the very chapter that you referred to this evening, stating that at any one certain time only one standard is possible. We will arrive at the same conclusion if we look at the definition of the word standard,—a thing by which other things are measured. It seems to me that the whole argument as based on both standards must fall, because such a thing is an impossibility. I think you will find that Chevalier, another great Frenchman, and also Horace White, Edward Atkinson, and Andrew Carnegie, take the same position that Jevons does,—that only one standard is possible.

MR. S.—Yes; there are writers innumerable, and of about equal weight on both sides of the question.

THIRD GENTLEMAN.—Can you give us any on the other side?

MR. S.—In our own country I would mention General Walker, certainly one of our leading economists; also Mr. S. Dana Horton, a writer who has, perhaps, done more than any other American writer on the history of money, and who takes a very strong bimetallic position; also such a man as President



Andrews, of Brown University, and I might also mention Mr. Bland to offset some of the names you offer. One of the strongest French writers upon the subject (he is a writer whose views I take at second hand) is Wolowski. He is the author from whom Jevons takes his statement of the bimetallic theory. He is, perhaps, the strongest advocate of the scheme. It is not maintained, so far as I know, by any writers in favor of bimetallicism, that absolutely to the furthest fraction the ratio can be maintained. It is only claimed that for practical purposes the two metals cannot fluctuate in value more than an inconsiderable distance. If the scheme works out as they propose, while practically the gold may be a little higher than the ratio for a while, the next year it will probably be a little below silver in value. There will thus be a slight fluctuation all the time, but that does not necessarily mean that one metal would drive the other out, for it is claimed that the moment one metal tends to get apart from the other in value, just that moment the influences of demand tend to bring it back again. The argument is that if the principal nations agree to it,—the nations that have such a control over the demand for gold and silver that their combined action would create a monopoly,—then, when one metal becomes cheaper than the other, from changes in the demand or in the supply, people who have debts to pay will try to get the cheaper metal to pay with, and that very fact will create more of a demand for the cheaper metal and tend to check the fall in value. Thus more people would want to get hold of the cheaper metal, and at the same time there would be a falling off in the demand for the dearer metal, because it could not get out of the clutches of this monopoly. There would be no other great demand outside of the nations in the ring, which could carry off the dearer metal according to Grèsham's law, so that the dearer metal would come down again. Hence only within very narrow limits, which would practically be of no importance, would these two metals swing below and above the legal ratio. That is the argument.

FOURTH GENTLEMAN.—In carrying it out, then, we would have to get up a wicked monopoly.

MR. S.—Yes. You would have to get a number of nations in it, and it would be, to some extent, a monopoly. It is not likely we could ever get the Eastern nations into the monopoly, so that there is a very disturbing element coming in,—the demand of India and the East generally for silver, which is a tolerably constant demand for large quantities of silver.

FIFTH GENTLEMAN.—If the United States and France would act together for bimetallism, do you think they could maintain it?

MR. S.—I doubt it very much, with England and Germany in the other scale. Still, that is only guess-work, as any such opinion must be.

FIFTH GENTLEMAN.—Well, suppose there was free coinage of silver in the United States, but it was not made legal tender, would Gresham's law work? What would be the effect? Wouldn't we have a larger circulation, a larger currency?

MR. S.—Of course, if gold was the only legal-tender money, that would create a larger demand for gold, and would tend to keep gold here in the country, but it would tend to enhance the value of gold, to force gold up and silver down; in other words, to make a premium on gold in silver. That would be my view of the case.

SIXTH GENTLEMAN.—Have we not in this country a perfectly interchangeable currency between our paper money, our silver, and our gold? You go to a bank; they make no discrimination in the character of your deposit; they pay you out anything you ask,—gold certificates, silver certificates, or specie,—that is, silver. Hence we have in this country a perfectly interchangeable system of money,—no discrimination made between them. So far as the influence of gold in Europe is concerned, I may state that the indebtedness of the European states now is about twenty-two thousand millions of dollras, which is a vast sum of money, and that indebtedness, in nearly all these states, with

scarcely an exception, is payable in gold,—the bonds are redeemable in gold,—and hence there is that immense influence brought to bear constantly upon the legislation of these countries to support the monometallic standard. And we have that influence in this country constantly. All of our bonds are payable in gold, and a great many contracts—for instance, Western land-mortgages, dealt in by various associations—are required to be paid in gold; hence all of that interest is, of course, co-operating towards the gold monometallic standard. If the power of our government should be enforced,—for law has power,—law provides for our inheritance; a man dies, the law is rigid in its application to the heirs; the law by which we hold real estate is a very rigid law; if a deed is not made properly, in some parts it might be vitiated; and many things can be cited with regard to the law of the country that is absolute in its character and everybody is bound by it. For instance, if I give a bond, we will say, for twenty thousand dollars, payable at a certain time in gold, and, when that time comes around, instead of tendering gold I tender silver, or the legal-tender money at the time, and the man will not take it,—“Your bond says payable in gold.” “Well,” I say, “here is silver; it is legal tender in this country. I cannot get the gold conveniently.” He says he will not take it. The case is immediately carried into court. As silver is legal-tender money in this country, just as good as any other, how much is that man going to get? If a verdict is rendered by the court, the court will say that, according to law, one is equal to the other, and hence if he takes the silver he suffers no loss by it, and therefore he is not entitled to any verdict.

MR. S.—Do you know of any cases of that kind?

SIXTH GENTLEMAN.—One illustration is the decision in the case of the ground-rents in this city. A great many of them were payable in Spanish milled dollars, but the decision of the Supreme Court of the United States compelled the parties to take the legal money of this country. Some contracts are made

that so many bushels of wheat shall be paid at a certain time, but if the value of the wheat is tendered instead of the wheat itself, the parties are compelled to take it. If they go into court they will be nonsuited. Now, if this government would only say, "We shall show no favor on either side; we will pay our indebtedness in whichever of these moneys shall be most convenient for us," I think we would hear less about this bimetallic standard. There ought to be more silver paid out. One hundred and fifty millions could be paid out every year to the pensioners of this country, and a large proportion of that money would stay in the country and not go back into the vaults of the banks or the government. The silver dollar, on an average for the past fifteen years, has cost us eighty-six cents. It represents that much labor, and labor is the source of wealth. Paper money is merely a fiction; it is a promise to pay; it is not money itself absolutely; it is based upon redemption in gold or silver. Hence when you get a class of money that is worth eighty-six cents on a dollar, it represents so much labor that has been bestowed upon it. If a man pays you a thousand dollars in paper money, the cost of that thousand-dollar note is no more than that of a single dollar; but if a man pays you a thousand dollars in silver, it represents a thousand times the labor that a single dollar represents, and I think we ought to be more willing to take the silver money of this country. If we had a system by which no notes for less than ten or twenty dollars should be issued, I think all the money that we have would be put into circulation. Three hundred and forty-six million six hundred and eighteen thousand and sixteen dollars in legal-tender notes which we keep constantly in circulation might be supplanted by the silver money from our mints.

SEVENTH GENTLEMAN.—It seems to me if you ask whether the bimetallic system can be brought about in the world, that, from the present aspect of England, it would be impossible. England is the richest nation of the world,—the creditor nation



of the world. The English have established the monometallic system of gold. They, being the richest and the creditor nation, get the advantage of that, and they are not likely to give that advantage away as long as they can maintain it. We have in this country a large production of silver; our mining interests are very powerful, and they are using political means to bring their power to further their own advantage and interest. If they can establish free coinage with the present price of silver, they will get the difference between the real value of silver and the market price of silver as a profit to them; or, in other words, if they bring to the mint silver to-day worth, say, about seventy cents to a gold dollar, they get for it a silver dollar which is a legal tender, and they have made thirty cents on every dollar. The miners get that, and that is the reason why they work so hard for free coinage. We are virtually a bimetallic country here; we are working under that system; a silver dollar is a legal tender,—it must be received for debt under the law,—that makes us bimetallic: we have the two dollars legally of the same value. But as long as England maintains her present position of commercial supremacy she will not assent to a bimetallic system. France would do it. England will not. We all know the character of the English nation: it is determined and powerful, and will not assent to give up anything that it is to their advantage to hold; that has always been their character, and although President Harrison may hold out the hope, as he does to-day, that we can have a monetary conference and establish bimetallism all over the world, I think the hope is fallacious. I believe that England has always stood against it and will stand against it. She drove Germany to the position she occupies on this question. She drove France to the position she occupies on this question. She knows her power, and she will hold it forever. I do not think it possible that there can be in the world of nations bimetallism, because of that one obstacle.

EIGHTH GENTLEMAN.—One thing in regard to bonds payable

in gold. I do not think that in one bond out of a thousand that is made with that clause put in the parties expect to receive gold. It is only a guarantee that they shall not be paid in a depreciated currency.

MR. S.—If it came to be an advantage to demand gold, they would demand it.

NINTH GENTLEMAN.—Yes, but otherwise I do not think the court would make them take anything else. I would like to ask a question. I can understand very well that theoretically a double standard is absurd; that practically, however, under certain conditions, two standards may for a time exist, especially in money. Gold and silver may both for a time be standard, as you have explained,—namely, if the ratio be the ratio of the actual, natural value of the two metals, then two equal amounts of gold and silver may be coined and circulate. If, for instance, the value of silver would fall, more silver would be coined and more gold would be melted down for industrial purposes, and therefore the amount of gold in circulation would diminish and the amount of silver in circulation would increase, and through this the balance of value would still be maintained, as you have shown. Now, what I should like to ask is, whether this compensating action can continue after, through this action, the gold metal altogether disappears from circulation and the whole metallic circulation consists of the one metal only,—if after that silver should continue to fall, after having displaced gold altogether, could, from that moment, any law prevent gold from coming to a premium, rising above the silver ratio?

MR. S.—No; I should say not, in such a case. The question may be asked, Where will the money disappear to? If this metal should go into use in the arts, if there should be a demand for it sufficient to carry it off into such uses, then, of course, the whole bimetallic scheme would have to fall, as it seems to me. But that appears to me a very improbable supposition.

NINTH GENTLEMAN.—That is what happened in 1885, as I

understand, with the government. It was then, as I believe, very nearly unable to meet some silver dollars that were presented under the old legislation. It went to the New York banks and succeeded in getting enough to keep silver at par with gold. Suppose that should happen now and we should wake up a few mornings afterwards and find that the result was that we could pay all our contracts in a dollar worth then about sixty-seven cents according to the present rate for silver, would there be a rapid rise in the value of the silver dollar after that, or could you continue to pay off all your obligations in a depreciated money? It is a very wise provision to make them payable in gold. They are drawn in legal money in considerable amounts, and it is a question in my mind whether there would be a rise of the silver dollar probable before the last of a mortgage was paid off or whether there would be a likelihood of its being paid in this cheap dollar.

MR. S.—Of course I cannot prophesy as to how soon this rise in value would come.

SIXTH GENTLEMAN.—I think this gentleman [the seventh gentleman] underrates the power of this country, with its sixty-four millions of people and its increasing prosperity. Great Britain is losing ground every day in the commercial world. Our interests are large in this country, we have increased to sixty-four millions of people in less than a century, and with our rapidly-developing industries and resources of every kind, we are soon going to outstrip her, lying as we do between the silver-using people of the East and those of Europe.

MR. S.—I think it very likely that before we get the upper hand of England commercially this question of bimetallism will have been settled by some other monetary system.

TENTH GENTLEMAN.—Yes, by another race of people.

NINTH GENTLEMAN.—I think you said in the lecture that the demonetization of 1873 in this country, with a similar law in Germany, and the action of France and the Latin Union about

1873, was, in your opinion, one of the leading causes of the decline in the value of silver as a commodity. That was your statement?

MR. S.—Yes.

NINTH GENTLEMAN.—Then I would like to ask you what has been the cause of the decline of silver in the last year, the two years since this country has been taking all the output of our silver mines, fifty-four million ounces a year, making such a demand on the metal? In spite of that great money demand of the government, what has been the cause of the decline in silver? After the passage of the law of 1890 it went up to one hundred and twenty-one; now it is as low as eighty-six cents an ounce.

MR. S.—I should say the prime cause is the very rapid production.

NINTH GENTLEMAN.—Well, wasn't that the cause in 1873?

MR. S.—I do not think that that could possibly account for the sudden decrease in value, and I do not see why it would be necessary to attribute it to that entirely, because in 1873 it was not merely the action of one nation, but of three, or you might say of four or five of the most powerful nations, declaring a policy all at once of disparaging silver. With a commodity like silver or gold, where there is an immense supply already in existence, the cutting off of a demand so extensive as this would have a more powerful influence than a mere increase in the supply. But you see since that day we have been adding an enormous amount of silver every year to the supply, and that increased supply coming to meet a smaller demand has made silver, to a certain extent, a drug in the market. The increased supply has now had time to work. It had not when those laws were passed. Our mines were not producing anything like what they have since. The new supplies were just beginning to be felt at that time.

ELEVENTH GENTLEMAN.—I read in one of the engineering



papers last week that the opening of railroads into the mining districts connected with Denver and the main smelting district has reduced the cost of transportation at least fifty per cent. The invention of tools for blasting and things of that kind has reduced the cost of mining about fifty per cent. The cost of powder has fallen fifty per cent.; and the opening of mines is far beyond the demand; and, further, one of the mines in Colorado or Nevada at the present time is actually producing silver at twenty cents an ounce. It is not hard to account for the fall in silver in the face of that.

NINTH GENTLEMAN.—In addition I would like to ask another question. If, through some advance in our monetary system, it should be possible that nearly all metallic circulation could be displaced by notes,—that is, by promises,—would bimetallism be still possible then?—that is, the compensating action? That is, if practically no gold or silver is really in circulation, if all the circulation were made up of promises well secured, would, in that case, a compensating action be possible, or would not the value of both gold and silver follow its own natural trend, so that no international agreement whatever can hold the value of the two metals at the ratio?

MR. S.—I should say that if you practically do away with the use of gold and silver as money, so that there is no demand for gold and silver as money, there would be no call for bimetallism.

TWELFTH GENTLEMAN.—Don't you think it is inevitable that we shall be unable to redeem these silver dollars in gold if they keep on issuing them at the present rate?

MR. S.—There is a great difference of opinion on that point. It is claimed by many that this country is now dangerously near a gold premium, and that it is coming very rapidly, while others maintain that there is nothing to fear. It depends very largely upon the attitude that the government takes as to how long we shall continue under the present law before this result comes. I have seen an estimate by which if gold is made the sole money

of ultimate payment, there are outstanding claims of five dollars against every dollar of gold. Of course as long as silver increases at the present rate the proportion becomes worse and worse, and we may very soon come to a time when, if the government follows the policy of paying gold whenever it is asked, we shall run against a rock.

NINTH GENTLEMAN.—Yes; it is impossible to do that forever. If we keep on increasing the silver circulating medium, which is represented for the most part by the silver certificates, silver must be piled away. If we increase it and pretend to keep it on a gold basis, we must come to a point where what happened under the old legislation will happen under the new.

SEVENTH GENTLEMAN.—Theories have to yield to the logic of facts. We have gone on in this country for these last eight or ten years coining silver dollars until we have, I think, over three hundred millions in the Treasury, and we are yet going on purchasing silver to the extent of four and a half million ounces a month; not coining it, but storing it and issuing notes upon it, which, of course, furnishes the means to purchase the silver. Every intelligent man can see that there must be an end to a process of this kind. We have already got our silver possessions up very nearly to the standard of our gold possessions in this country. We saw last winter, in the course of thirty days, seventy-four millions of gold going out of this country. We expected it would come back again when our grain went forward, but did it? It is in England still, and there it will stay. Whenever it is her pleasure to draw from this country our precious metal she does it, and she will continue to do it because she has our bonds in millions of dollars, which she can send and sell and bring down our stock markets. What does she care for a little loss to maintain her supremacy? She will maintain it, and if we go on at the rate we are now going, purchasing four millions and a half of silver dollars every month and piling it up, silver will fall, and continue to fall, until our silver dollars will be

worth fifty cents instead of seventy, and we shall have a mountain of silver and as much currency as that silver floating in this country. We are stimulating speculation in every way; we are on a false basis, and every day we are running further into danger. When the time comes that our gold possessions are less than our silver possessions, the government will not be able to maintain the parity between gold and silver. Gold will go to a premium: it will be hidden away; and we shall have an exclusively silver currency in this country. That will be the effect of it, and we shall be at a disadvantage in all our money transactions with Europe. To-day we have the information that one billion six millions of dollars has been the extent of exports of this country to Europe. What do we get for it? We get back the merchandise of Europe, not their gold; it does not come here. Last week nearly two millions went out. Probably there will be as much this week. Gold continues to go out notwithstanding the enormous credit we have. One hundred and sixty-nine millions, the result of last year, is to our credit; we do not get the gold for it. The gold is going away from us continually, because it is the more valuable metal; the silver stays at home and constitutes our wealth, while the gold goes to England to swell her tremendous power. That is the result of our present system, and it will not be a great while before every man will understand it if he does not to-day.

SIXTH GENTLEMAN.—Let me say, in answer to this gentleman, that we have now five hundred and eight millions of dollars in gold, when but a few years ago we had only about two hundred millions. Now, how does that come about? According to this gentleman's statement the balance of trade every year is largely in our favor; our exports exceed our imports by many millions of dollars. The only drain chiefly against this country is the amount of money that is spent by rich Americans in the capitals of Europe, and I would like to say this: that every man who stays in Europe five years continuously, in residence, should lose

his citizenship in this country ; and if he takes any gold with him to that country, he ought to be made to pay an export duty upon it.

MR. S.—To make my own position clear, I would say, in closing, that if we look at this question scientifically, there is a wide difference between advocating the present silver policy of the United States and advocating a theoretic bimetallic policy on the basis of an international agreement. So far as I may have been understood to-night as arguing that such a bimetallic policy was a theoretic possibility, and would be advantageous if carried out, I do not wish to be understood as advocating at all the present silver policy of the United States. The two things are about as far apart as two things could be, and we must not confuse them in our reasoning. It seems to me that to apply the term bimetallism to the present silver policy of the United States is a misuse of the word, because we do not have free coinage in the first place, and then, in the second place, scientific bimetalism does not mean an attempt, single-handed, by one nation, in the face of the opposition of the world.



## LECTURE XII.

### MONETARY PANICS.

LADIES AND GENTLEMEN,—Some two thousand years ago Julius Cæsar, a political suspect in his country, a man overwhelmed with debt, started out on a career of conquest in Gaul as a means of advancing his political prospects at Rome. In this adventure he came in contact with a people about whom Rome had known little,—the Germans, living north of the Alps and east of the Rhine. Cæsar left a short description of this people in his writings, which gives us a little insight into the character of the early Germans.

Something over a century later another Latin writer, Tacitus, described much more fully and clearly these Teutonic peoples. Among these dwellers in the north woods of Europe were the germs of many institutions which have lived down to our own time. Perhaps the most familiar illustration of that, something which brings out the connection between the early politics of that time and our own political life, is this fact, that the March town meeting which exists in our Eastern States was a part of the political system of some of those German tribes. They had their March-field, when they met to decide the policy that should govern the tribe.

But it is not merely in political matters that we find a continuity of life between the early Germans and ourselves. Let me read a few sentences from a page of Tacitus, in which he describes certain amusements of the Germans, and then goes on to say, "What is extraordinary, they play at dice, when sober, as a serious business, and that with such a desperate venture of gain or loss that, when everything else is gone, they stake their liberties and persons on the last throw. The loser goes into volun-

tary servitude, and, though the youngest and strongest, patiently suffers himself to be bound and sold. Such is their obstinacy in a bad practice they even call it honor. The slaves thus acquired are changed away in commerce, that the winner may get rid of the scandal of his victory."

We all know how from this early Teutonic stock England was peopled, and, later, America in great measure; and wherever this race has gone, and wherever the principles or the life of this stock have become dominant, there we find that, if not playing at dice, yet speculative enterprise, at any rate, is a dominant quality of the people. This people are not contented with the plodding gains of many other races. They are not contented with industrial stagnation. They must have economic progress, and they get it at the risk of everything. To gain it they throw away in their business enterprises, as Tacitus tells us of their forefathers, their liberties and their lives; they still "play at dice, when sober, as a serious business;" so that we can see through the centuries dominant in this race the quality which brings us face to face with the problem which we treat to-night.

The subject which we would naturally first take up is the nature of the money-market. A monetary panic arises in a money-market. We have defined market as being the "meeting of supply and demand." A market does not mean merely a place, but that whole process in the production of wealth which brings demand to the production of supply and which brings supply to the satisfaction of demand. The meeting of that demand and that supply, their reciprocal action upon each other, is a market. There is, in one sense, a market for each commodity, but we must understand that the market for each commodity is not the same in its extent with the markets for other commodities. Certain commodities have a world movement. The demand which calls them into existence begins on the opposite side of the world from where the commodity itself is produced. Others are produced and consumed upon the same spot.

A market, then, is a variable thing, in accordance with the commodity of which we are treating; and we notice in this respect also that trade boundaries are not the same with political boundaries. Trade is an international thing, and has no respect whatever for national boundaries, except so far as a nation sets certain restrictions upon trade or opens up new avenues with other nations for trade. In this way the political boundaries of a country may determine or influence, to some extent, the boundaries of the trade-markets, but, generally speaking, the boundaries of trade-markets are not the same with the boundaries of the political divisions of the world.

Another very important fact in the economic life of peoples is the transportation of commodities from one part of the world to the other. How shall these commodities be brought to the market? Here we see that the extent of the market is determined very largely by the means of transportation of the commodities themselves. But that fact is only an incidental feature of our subject to-night.

Having defined market to be the meeting of demand and supply, we answer the question, what is demand and what is supply? in this way: demand is the human want, the desire in individuals or in societies for certain commodities; supply, of course, means the goods which are produced in order to meet this demand.

But this raises another question, and we have to leave the material thing and go to a deeper fact. What is it which, in the commodity, enables it to meet the want of the individual? There is a certain fitness in the commodity to the want which it is to satisfy, and this fitness in the commodity, *when brought into relation to the human demand for it*, we call utility, and the comparison and measurement of these utilities, one against the other, we call value.

Now, one of the most important problems in production—I should not say in production merely, but in social life generally—is this, How shall these utilities in commodities be transferred?

How shall they be brought from the producer of the utility to the consumer of the utility and made available? That is the fundamental problem underlying this whole discussion which has been running through our lectures.

There are several classes of commodities in which these utilities are embodied, and one general distinction must be made into movables and immovables. Movable commodities can themselves be transferred, as we have indicated, by railroads or other means of transportation, so that they shall come to the place of consumption. On the other hand, land or other immovable commodities cannot circulate; they must be used where they are. The utility of land is fixed in the spot where the land lies. But there can be a market in land where the title to the utilities fixed in the land can be transferred. The market in the various movable commodities, on the other hand, may deal in the commodities directly, as in the grain-market, the oil-market, the iron-market, where the demand and the supply of those particular articles are brought into contact. Again, in regard to all commodities, the market may deal simply with the titles to specific things, as, for instance, in the stock-market, which deals in the titles to a particular enterprise or to a particular commodity, or in the produce exchange, where certificates for the commodity are dealt in. All these markets are for the transfer of specific utilities. Finally, there is a market in which we deal in general titles to all kinds of utility,—namely, the money-market.

In the money-market, then, transactions are in that commodity which we call money, or in credit, the more spiritual form of this universal purchasing power. There is no mystery about the money-market different from the market of any other article. It is simply the meeting of supply and demand in reference to money, but it is money in the character of the universal purchasing power which is transferred in the money-market. Upon this character of money rest all the phenomena of the money-market.



In the light of what we have said, I think the nature and object of money can be expressed better in this way: that the object of money is to *fluidize utilities*,—to make them current, so that they can be transferred from one individual to another. We speak of money naturally as *currency*. You can see the thought lying at the base of that. It is something which carries utilities from one person to another. It expresses values. As land utilities are the most immobile of all utilities, so money utilities are the most mobile. In the mobilization of utilities, which is accomplished through the various markets, there is a gradation from the land-market, through the markets for specific commodities; the produce exchange, dealing in titles to specific commodities; the stock exchange, dealing in titles to various organized combinations of productive forces, to the money-market, the climax of the process.

The money-market is the market which deals in the universal transfer-medium of utilities, in mobilized utility. The owner of land or of a railroad plant has his productive power in a specialized form: he has made his decision. The owner of money has the advantage of a reserved decision: he possesses generalized productive power, utility in the abstract, a potential force which he can throw into what productive process he chooses. This shows, by the way, why land is such a dangerous basis for a currency. It is almost the extreme of specialized immobility, almost the last form of utility capable of quick generalization. Currency must have the most mobile basis.

Some commodities have, as we have seen, what is called a world movement, a demand on the other side of the world from the place where they are produced, while other commodities are produced in narrow circles where they are also consumed. Not only is this question of distance a very important and a difficult question, but also the question of time, the period of production, during which demand must wait until the article is produced,—a period which differs very materially in different articles, some

articles being produced and consumed in a few days and others requiring years.

These two elements of time and distance make it almost an impossible thing, with the most intricate organization of industry and of communication which we have, to make anything like complete harmony between the supply and demand of commodities or of the utilities which are embodied in the commodities.

Now, as the railroads and other means of transportation bring the actual commodities themselves into the hands of the consumer, or bring capital which is embodied in certain specific forms into the hands of the producer who wants to use it, so we may say that money and credit are equally necessary instruments in this process of bringing demand and supply to harmonize, by means of carrying the demand over to the production of supply. Money and credit—credit, perhaps, more particularly—become, as I have already maintained, spiritual or psychical agencies. They are not merely physical or material forces in this respect, but they carry human desire, which is a psychical force, over long periods in time, over long distances in space, to the production of the things which are needed.

The money-market, no less than any other market, presupposes an organization. Every market, even the most primitive market, requires some organization, and from the office performed by money we should expect to find in the money-market an intricate and highly-developed organization. The banking systems of different countries furnish the modern form of this organization of the money-market; in fact, until modern times a really well-developed money-market did not exist at all. The modern development has passed over from simple unrelated banks to systems of connected banks.

There has been, through all this growth, as we have already brought out, a progress towards concentration and towards unity. In the most highly-developed nations the systems of money and banking are the most highly organized, the most

intricate, the most concentrated, and with the greatest unity prevailing throughout. It would seem, then, that the line of progress must be along the line of concentration and unity,—not necessarily that free action in the parts of the system shall be excluded, but that the individual parts shall be coördinated and systematized and made one whole in action.

To speak more narrowly upon certain points, it may be said that the money-market results from the need of borrowing capital under the system of specialized industry which prevails. It is easy to be seen that the producer who has not capital must borrow it, and that the ordinary way in which this is done is by means of borrowing money or procuring credit. It is, in form, the selling of money or credit.

There is one feature of the money-market which we must notice particularly, and that is the effect which law has upon the money of a country in making certain kinds of money legal tender in the payment of debts. This, under certain circumstances, creates an unusual demand for this legal-tender money, thus producing a scarcity of it in the money-market; a fact which is vitally important in the subject of to-night.

The further fact must be noticed that it is really the banks which are the great operators in this market; that, indeed, they are the place of the market, its local habitation. In this as in other matters of organization, the greater the concentration in the system the wider the system actually extends, and the nearer, in that respect, the extremes of any country or of any trade-market are brought to each other.

If we want a more definite idea of the way in which the money-market is concentrated, we cannot do better than to take a brief glance at the system in England. The banks throughout the country all lean upon the banks in London. They have their London correspondents, with whom they deposit their reserves, keeping, themselves, only as much as is necessary to meet the daily requirements of their business. The London bankers, like-

wise, as a rule, have a habit of putting all their reserves, beyond what they consider necessary for daily transactions, in the Bank of England. The whole responsibility for keeping the reserves rests on this one bank, the centre of the system, the Bank of England. Add to this the fact that not only England alone, but also, from the commercial supremacy of England, the whole commercial world centres its international banking operations in London.

Upon this one bank, then, upon the conduct of its managers in respect to the reserves, rests the responsibility for the soundness of the banks throughout England, and, under certain circumstances, the soundness of the banking systems in other countries. It is a sort of pyramid resting on its top. If the top cannot be made secure in that position the whole structure may go down. It is a situation which is filled with danger.

The centralization of banks in this country is of a different type, but reaches, after all, very nearly the same end. The banks throughout the country, by means of the central reserve banks and their correspondence and association with the New York banks, constitute a system in which the New York banks as a whole bear substantially the same responsibility as the Bank of England.

This responsibility, however, rests not upon one bank, but upon the combined banks of New York City. We shall see, later, how these banks, under certain circumstances, act together, so as to produce something of the same unity and concentration of power at one point that marks the English system.

It is, then, easy to see the danger which lies in this constitution of the money-market, in this frantic intensity of action, of life, at the centre. As in every living organism, whether plant or animal, the higher the organization the greater the danger of derangement. Cut in two an animal of low life, the animal goes on living, either as two or as one, but this rule cannot be applied to a highly-organized animal. The same analogy runs



through social institutions,—the higher the organization and the more intricate the greater the danger in case of any disturbance.

Having thus outlined the structure of organized credit, we are in a position to understand what is meant by a panic. In the last analysis it is a mental phenomenon, like its logical opposite, credit. It is the general loss of credit. It is the loss of that confidence of one man in another, or of one part of the community in another part of the community, which is the vital force of industry. In the present organization of trade every man engaged in trade is connected, both as debtor and as creditor, with other traders. If we were to picture the real state of facts, we would see that this interlocking of credit is like a chain in which every link is wrought in with several other links, so that the whole chain holds together in a very complicated way. Now, one link in this chain may break, or several links may break without doing much harm, but the moment one link gives way it weakens the other links, and if the weakening goes a little further, the whole chain may go to pieces. This is a very imperfect analogy, but it brings up somewhat vividly the character of the action which goes on in commercial crises.

When we come to consider what are the causes of panics we are brought face to face with one of the most disputed points in financial and economic discussion. There have been innumerable causes proposed, and undoubtedly there is no single cause to which the whole disturbance can be attributed. One curious theory has been advanced by men of a great deal of intelligence. The most notable representative of this theory is our author Jevons, who claimed that there was a recurrence of these panics every ten or eleven years. He worked out the scheme so that he made it tally, roughly at least, with the cycle of sun-spots, and his theory was that this regular recurrence of sun-spots caused a regular recurrence in different parts of the earth of famine or of disease, which in turn caused a prostration of certain industries in that affected part of the earth, and thus a

derangement of the whole trading world ensued. Certainly the second step in his scheme we often see,—that is, that the prostration of an industry in one part of the world prostrates industries generally throughout the world. The panicky impulse may be communicated from one banking-house to another, from one trading centre to another, from one country to another, and thus spread over the whole commercial world.

Whatever there may be in the other part of his theory, we cannot discuss here, but it is worth attention as a curious treatment of this topic.

A number of other things can be mentioned as at least partial causes. Often, in this age of specialized industry, production of certain goods goes far beyond what is the actual demand, the effective demand, for those goods. Of course we do not argue that there may be over-production in general, but without doubt there may be over-production of certain articles in certain localities,—that is, in one of the markets for commodities there may be more of that commodity than there is demand for, thus tying up for a time the capital put into this surplus. Over-production in a certain commodity, in this way, may be the force which breaks the first link and so leads to financial disaster.

Unsafe extension of credit may do the same thing. It may promote speculative enterprise, and from this speculative enterprise we may have again this over-production of certain commodities. We can easily remember how, for instance, the railroad mania has shown this very phenomenon. The production of railroads has gone far beyond the demand of the community for them at certain times, and inevitably, after such a time, there comes reaction in the form of the stoppage of railroad enterprise; and this industrial depression and derangement may bring about a crisis in the money-market as well. There have been notable instances of this particular cause both in England and the United States.

A contraction of the currency or an inflation of the currency,

if severe, may do the same thing. We might go on enumerating other possible causes; but after a broad survey in every direction one fact would be very evident,—that it is only in countries where productive credit is largely developed that a recurrence of these monetary crises is found. Credit exists in countries which are not highly productive, but it is not credit of the productive kind, it is not credit which leads to the extension of enterprise, it is rather credit on the side of consumption; loans to a wasteful government or to idle and extravagant people.

The greatest extension of productive credit is found where there is the greatest extension of the banking system, where a higher organization of the banks exists, and there appear the worst effects of these panics, because banking is organized credit, and the higher the organization the more disastrous is disorganization. One of the greatest problems in banking is to render banking safe, so that any tendency to panic may be effectively stopped in time.

We come, then, to another question,—how to manage a panic. In a country where credit is developed there is a vast mass of transactions which rest upon a cash basis, and which call for cash payments many times beyond the amount of cash available in the country. General liquidation would mean absolute collapse. This state of things can be maintained only by the continuance of credit. I mean by credit here the mental phenomenon of confidence by man in man. The debtor must feel confident that he can get the money to meet his debts if it is needed, and if this confidence is widely broken there is a quick tendency to a crisis, and if this tendency is developed it comes to this: that for this small cash reserve there is an overwhelming demand. A monetary panic is a general rush for this cash reserve.

The problem, then, is how to prevent this demand, this demand which at times grows frantic. In general the remedy can only be the operation of this movement which we have seen to be the function of money and credit. It is to fluidize utilities

again; it is to make utilities available for payments. Now, this cannot be done at such a time by specific goods. A man who has land, for instance, and who owes a great deal of money, if there is a pinch for the money cannot give his land in payment unless the particular man whom he owes is willing to take it. The same is true of any specific commodities; it is true even of the titles to commodities such as stocks and bonds,—specialties, as they are called in law, which are not available directly, but only by sale, and sale would be had in a falling market. Of course these stocks and bonds are better than land or other special commodities, because there is a wider demand for them; a man may often unload his stock and procure the money which he needs to meet the emergency. To use our figure again, stocks and bonds as compared with land are utilities half fluidized; and we see again why they are a much safer basis for a paper currency than land itself. There is no such general and eager demand for land that it can be put quickly and advantageously in the market in an emergency.

When this general loss of credit occurs there is nothing which will meet it except the title to commodities in general, to utilities in general. There is no remedy but fluidized utility, and this can be had only in the shape of money or credit, something which will restore confidence again by bringing to the debtor either the assurance that he can meet his debts or the actual money with which to meet his debts.

If we contrast again the English and the American systems, we shall see that this remedy is applied in somewhat different ways. We have already seen that the Bank of England in an emergency can suspend the operation of the law limiting the amount of issue on security. Accordingly, it is the custom of the Bank of England, if a rise in the rate of discount will not check the demand for loans of money or of notes, to take securities to the issue department, and on these securities to receive the notes of the issue department, which are legal tender



and which are available then for further loans or for the strengthening of the reserves.

One of the authors to whom I have referred, Professor Dunbar, in a very good analysis of this matter which he gives, points out the fact that in the panic of 1857 the addition by this method of only two million pounds of notes from the issue department quieted the panic. When we consider that the bank had only half a million cash at the close of the preceding day, and had thirteen millions liability on its deposits alone, we can see that it was practically a homœopathic remedy, yet it was very efficient; it quieted the panic completely, confidence was restored, and things soon went on their usual way.

It is not, then, the actual money which is needed so much as it is the "ministering to the mind diseased" of the community by making them feel that they can procure the money they need. The remedial method is then not so much homœopathy as mind-cure. The method which has been effective in New York is for the banks to combine their reserves by means of the clearing-house and clearing-house certificates, which the banks receive in discharge of their obligations to one another. If there is a special call upon any one bank, the reserves of all the banks in the association are made available for this purpose, so that at the point of greatest demand there may be for that demand an unlimited supply of loans available. This method was found quite as effective in 1860 as the English method in 1857.

We have treated this subject very briefly. It is a subject upon which I feel ill qualified to speak at all, especially to an audience like this, who have had practical experience in these matters, whereas what information I may have has only been wrung by study from books. But I do not claim any personal knowledge of the practical matters connected with this subject. It is something which a teacher of economics should attempt to some extent, undoubtedly; but of course in every line of life there are a great many things in the way of training which one should do,

which, however, one is never able to do. It is, therefore, only the economic theory of the subject which I emphasize; and that brings us to the question of what is the relation between panics in the money-market and industrial crises generally.

We might contrast, in closing this course, the first lecture with the last; the first lecture treating of money in relation to civilization, the last ending with a monetary panic. The question arises whether in our industrial life, however hopefully we start out, we must end with disappointment, with panic. A book has been published lately—I forget its author just now—with a very striking and suggestive title, “*Civilization: its Cause and Cure.*” We have argued that money and the development of the money system have gone hand in hand with civilization; that our industrial civilization is largely built upon this institution. Must we now conclude that this system is, after all, a failure, and that likewise our industrial civilization is a failure? Are panics the necessary end of this development of credit which has brought the greatest industrial benefits? Do we need to seek a cure from our civilization?

If we look a little deeper into this money question we shall see that it is not an isolated question, a matter for separate and merely practical treatment; but that it lies deeper, that it is a part of the deeper problem, the economic problem, if you please, of human welfare. It is primarily a social problem; one which concerns not merely the individual bank, or the individual banker, but which concerns the society in which they work and by whose license they carry on their business. It is but another phase of the same question which comes up in all our industrial problems. It is the same question, in one sense, with the labor question; it is the same question with the question of the railroads; it is the same question with the question of monopolies. The fundamental and common fact which lies at the base of them all is, that the organization of industry is at the root of human welfare. The individual cannot work out his own salva-

tion alone; he must work in connection with others; organization in society is necessary; and this organization is and must be an economic one. Economic forces are the base of human life, of social institutions, and of all progress in civilization.

The motive-power of all individual effort and of all social organization is human want, and economic science in this respect must, as it seems to me, not merely treat of that which goes to minister to man's material welfare, but it must also investigate the ways and means by which, upon the basis of economic wants, the whole structure of society is built up. The labors which are called forth by these economic wants are those which produce everything which we have in society. Not merely the houses that we live in, but the temples of our gods as well: the works of art; the achievements of science; the ideals which hover always in the future of our restless progress, are all the outcome of economic wants and economic effort.

Several times, among writers upon these subjects, dismal pictures have been presented, as though there was no hope in the outlook for the future. Notable among these is the doctrine of Malthus, that the earth will not yield the supply for the wants of man as fast as the wants of man increase; in other words, that there is an essential and eternal difference between demand and supply. But industrial history later than Malthus easily shows that his is a one-sided view of the picture, and that upon the other side appears an escape from what has been called the "niggardliness of nature,"—namely, in the organized effort of society, in the conscious use of the powers of man through organization to effect that which he cannot effect alone.

Now, if we grasp that fact, that progress can only be by the more effective organization of the forces of man and their more intelligent direction, we shall see that there are in the present status of affairs several great defects, and that these are what call forth the expressions of alarm. Now, one of these defects is that there is an inadequate opportunity to certain classes of producers.

There can be no doubt that a great many members of society who would produce commodities that are needed are debarred therefrom by the fact that opportunity is monopolized by others who do not use it.

A further fact is, that there is inherent in the very idea of specialized training a defect,—namely, that a man who has become specialized in his skill cannot, if changed conditions demand a different kind of labor, change over to that kind of labor. Specialized skill is extremely immobile.

Another defect of the same sort is evident: that capital likewise becomes specialized,—in railroads, for instance; that land likewise becomes specialized, and that this capital and this land often become unavailable from changed conditions. You can see an illustration of the same thing, for instance, in our navy, where as soon as one new ironclad is built it becomes out of date through new inventions.

Another defect in this organization is, that our means of transportation are imperfect. Still another defect appears in the legal restrictions and the bad legislation which are placed about our economic life generally. Finally, we shall find likewise that in the organization of our monetary system are imperfections of the same sort; many things which are not adapted to the times and in which we must have reform if we would meet adequately the demands of the age. This shows us that industrial crises and monetary panics are but different phases of the fundamental evil,—a lack of harmony between economic demand and economic supply,—an evil due in part to defects in industrial organization, but due also in part to vices in human want.

This shows us that as practical men or as theorists there is a duty upon us which we cannot shirk, to face these difficulties and to see what can be done by our own efforts alone or in combination with others to change where change is needed and to hold fast that which is good. The general spirit which must animate every movement of this sort, as it seems to me,



is this: we must throw away the old idea that if the individual is let alone everything will work out all right. We have seen in a great many kinds of industry that free competition is either disastrous or that it leads, naturally and inevitably, under the conditions of commerce and of industry, to a consolidation. To leave the individual alone will not correct his vicious desires, which lead him into a course of action injurious to the permanent interests of society.

We must recognize these facts. In banking, for instance, it is not safe to go back to the old idea of a perfectly free banking, in the light of the progress towards consolidated banking that we see in all the civilized countries of the world. We must recognize facts, and we must remember that to advance personal aims merely is essentially vicious; that if we are to work along the line of progress, we must recognize the claims of public duty.

We must recognize the essential fact that upon every person, whether as a private trader or as the leader of a public organization, is laid a duty by the very fact that he is allowed under the license of society to do that work,—the duty to do that work for a larger than a merely personal end.

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#### DISCUSSION FOLLOWING LECTURE XII.

MR. SHERWOOD.—I have a few remarks to make in regard to the papers which I have received. I have been much gratified by the high standard of work which has been done in the papers, as a rule. Of course I realize that the time between one lecture and another in which the paper must be written has been very short, and that all the necessary books have not been accessible to all the members. Hence the papers have been short, necessarily, but I have no fault to find with their quality as a whole.

The examination will be held in one of the rooms of this build-

ing one week from to-night, and will last two hours. Those who pass the examination satisfactorily will receive the certificate of the society.

I announced at the beginning of the course that in order to take this examination six papers must be written. One or two persons have written a few papers, but have not come up quite to this mark. The papers have been of a quality, however, which entitles these persons to take the examination. I will, therefore, lower the minimum limit to four papers, and I will also give a week of grace—that is, until the examination takes place—for any others who may wish to make up the requisite number of papers to come into the examination.

In regard to the Saturday evening class held in the Wharton School rooms, I will say that my necessary absence several nights has somewhat broken it up. If this lecture course is continued, I would suggest an improvement in regard to this class: that each one who attends regularly should be required to prepare a paper upon some relevant topic, to read it before the class, and have it discussed there.

In regard to the discussions following the lectures I have one criticism to make: that readiness to take part in the discussion has been confined to too few of the audience. I have been surprised that among an audience so largely made up of men who are in practical touch with these monetary matters every day so few have been ready to take part in the discussions. There has been, therefore, to some extent, an inevitable monopolistic character to the discussion, which would be easily avoided another time if more of the audience would make it a point to come prepared to ask questions or to answer questions upon some part of the topic under discussion.

In regard to the questions of last week, on bimetallism, I wish to take up a point in one of the papers. It was asked in this paper why silver should be taken as a second metal any more than iron. If, to use Jevons's illustration, there is one reservoir

of gold and another one of silver, and they can be united, making one larger reservoir, by a legal connection between the two, why can't the second reservoir be of iron as well as of silver?

That argument does not recognize the fact that the two actual money-metals of the world are gold and silver, some nations using gold and some nations using silver. Now, the only reason why bimetallism is a question at all to-day is the recognition of this particular fact that a large part of the world uses silver and a large part of the world uses gold. It is the recognition of this fact that brings up a bimetallic scheme as a practical way to minimize the evils arising from international trade under those conditions.

The discussion of the lecture of to-night will be taken up now for a few minutes. It must be very short, as there are some other matters before us.

A LADY.—I would like to ask if Mr. Jevons were to secure glasses that would cure his far-sightedness, don't you think he would find all the causes of panics very material and near at home?

MR. S.—Mr. Jevons, madam, is now out of the arena.

LADY.—You quoted him in connection with the sun-spot theory, and I think he is also mentioned in the syllabus.

MR. S.—I mean that Mr. Jevons is out of the arena so far as any change in his views is concerned. You know he has been some years dead. But understand, please, I have not meant to endorse his argument at all. It is something about which we do not know. It may be that there is a very decided effect upon this world by the sun-spots. It is evident that the sun itself has a very vital effect upon the earth, and therefore, if the sun has any diseases, why should they not affect the earth?

LADY.—May I ask what is the cause of credit? Did you not say that it was the lack of money, either hard money or paper money?

MR. S.—Looked at from one point of view, it is a lack of

money to do the work that is called for. Looked at in another way, it is a preference of the trading society for that form of transfer.

LADY.—Well, isn't it a fact that those institutions which control the currency, either hard money or paper money, that it is to their financial interest to limit the circulating medium in order that they may take the credit of the people as a whole and rent it out to individuals? Do they not make a large profit by so doing?

MR. S.—Undoubtedly, under certain conditions of trade, banks do make a large profit. Undoubtedly, under other conditions, they do not.

LADY.—Well, that is the general rule, is it not?

MR. S.—The banks themselves, I should say, were more qualified to answer that question than I.

LADY.—But they won't answer it. They persistently refuse to answer that question.

MR. S.—Then I would say that sometimes the banks make their largest profits when there is the most money in circulation.

LADY.—But they do that, do they not, by stimulating speculation or commercial gambling?

MR. S.—How far can the banks stimulate speculation?

LADY.—Well, I suppose we can best tell that by referring to the severe panics that we have.

MR. S.—Would you say that the banks are the cause of the panics?

LADY.—I would say that these institutions which, in their own individual interests, are limiting the circulation of money, or the circulating medium, or the instrument of exchange, do it with the ostensible purpose of renting the credit of the people to individuals. It is, therefore, to their interest to stimulate speculation, because they reap their gains by so doing. According to the principles of monetary science the gain to the issuer of money is not only the quantity of money, but the quantity of money multiplied by the rapidity of its circulation. Therefore



it seems to me that there is no spiritual basis, but a wholly material one, and that that which will either allay or remedy a panic is some means either to obtain credit or to obtain money, is it not ?

MR. S.—Yes ; the remedy must be applied to that point.

LADY.—Well, then, is it not entirely material ? We need not go to the sun-spots for it.

MR. S.—Sun-spots are decidedly material phenomena. But what I mean by calling it spiritual is, that the credit itself presupposes something more than material cash. For instance, we can more economically carry on trade by having a credit system than by having enough cash to perform all the transactions. To render sufficient this material basis requires a certain quality—namely, credit—which I call spiritual. I mean that it is psychical rather than physical.

LADY.—But who profits by this economy ?

MR. S.—The community profits, to a great extent, and the banks profit, and everybody who touches it profits ; at least, that is the way that I look at it. Of course I do not mean to say that the credit system is an unmitigated good as it is carried on. On the contrary, I have pointed out the fact continually that there are evils in it, and that we must look for means to remedy those evils. Still, I cannot see why we should deny all good to a system because there are some evils connected with it. I see no reason for looking continually at the dismal side of life. Are there any further questions ?

A GENTLEMAN.—Is it not a fact that the banks, as a rule, band together to prevent panics, instead of trying to profit by panics ? I think we had an instance of that some eighteen months ago, when a large banking-house in London was on the point of failure. The Bank of England came to their rescue and called upon the Bank of France, and upon the New York banks also, to lend their aid. The banks of England, France, and America joined together to prevent a panic.

MR. S.—Yes, undoubtedly the banks often do this. As I have said in the lecture, the practice of the New York banks, in the case of a tendency to a panic, is to unite and act as one institution. The time has come when we ought to close this discussion. Mr. Rhawn has some announcements to make, and afterwards there will be an address by Professor James.

SECOND GENTLEMAN.—If you will allow me, I would like to read a little paper which I have here. It will take up only a moment or two of your time. It is a resolution which I would like to present for adoption by this meeting.

*Resolved*, That we, as members of Professor Sidney Sherwood's special lecture class on finance as connected with the University Extension course of the Wharton School for 1892, desire to express to him our appreciation and thanks for the highly entertaining and instructive manner in which he has given us a history of money and its necessity and uses to man in a state of society, as a representative of and medium of exchange for all other commodities, and has traced the same in its various relations from the earliest periods of history down through the mediæval ages to that of our own time, and in so doing has given us as near as possible the relations of gold and silver to each other and their great and important uses in the commerce and prosperity of nations; and has also given us the origin of banks of deposit and of issue, and their important relation to the modern system of credit and finance, and the important function they perform in the economy of the enlightened and advanced civilized world, all of which he has done in the most agreeable, judicious, and conservative manner, uncalculated to antagonize the most ultra monometallic, bimetallic, or paper-credit advocate.

If these sentiments are approved of by the meeting, I would like to have them endorsed by a *viva voce* acceptance, and I move the adoption of the paper.

*Motion seconded and resolution unanimously adopted, Mr. Rhawn presiding.*

MR. S.—I give you all my thanks for this kind expression.

SECOND LADY.—Would it be against the rules to extend the meeting about ten minutes longer? We have just commenced to have questions asked.

MR. S.—Further addresses have been arranged for, and it is necessary to close the discussion now.

## MR. RHAWN.

LADIES AND GENTLEMEN,—I beg to express, on behalf of the Committee, our thanks for the attention that these lectures have received; also to join with the audience in the earnest thanks to Dr. Sherwood, that are so eminently deserved.

These lectures are something entirely unique in the history of banking in this city, and so far as my recollection goes, which covers a period of about thirty-five years of practical banking, I do not think our fraternity has ever before had a course of lectures of any kind delivered under its auspices.

The credit of suggesting and planning this course of lectures belongs to Professor Edmund J. James, of the University of Pennsylvania, whose long illness has unfortunately prevented his being present until this evening.

It is also due to Professor James that Dr. Sherwood, who has been so very successful in delivering these lectures and in conducting the after-discussions, was chosen for this duty. Dr. Sherwood has been called to the Johns Hopkins University, and we shall be sorry to lose him. I do not know how far this work has resulted in his call to Baltimore, but I know that the fame of these lectures has already reached other cities that are seeking to have a repetition of the course next season.

And this brings me to another point. The lectures and discussions have been taken down stenographically and type-written, with the intention, after their revision by Dr. Sherwood, of having them published in book form, together with the syllabus and the opening and closing addresses, provided that a sufficient guarantee fund or subscription can be secured for the purpose. It is believed that the bankers and their employés, and all who are interested in University Extension, or in the



study of the subject of money, will find such a book most interesting and instructive.

I now have the pleasure of introducing to you Dr. Edmund J. James.

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### ADDRESS OF PROFESSOR EDMUND J. JAMES.

LADIES AND GENTLEMEN,—I accepted the invitation of the Chairman of the Committee to say a few words this evening upon one or two points connected with this course, and with subsequent courses that we hope will be given here, with a great deal of pleasure. I am only very sorry that I have not been able to attend any of these lectures before, for the reason which Mr. Rhawn has explained to you.

Mr. Rhawn was very kind in attributing to me all the credit for having arranged for this course of lectures. You have had explained to you, however, in all probability, in the course of the presentation of this subject by Dr. Sherwood, the difference between a demand and an effective demand. In the economic sense, a demand is simply a want; an effective demand has something back of it so real that it must be satisfied. Now, the really effective element in the arrangement of this whole course was Mr. Rhawn himself, and we are happy to be able to express our sense of obligation to him on this occasion. We owe much, of course, to the interest which the bankers of Philadelphia have shown, but in the first instance the whole initiative enterprise connected with it belongs to Mr. Rhawn, and I am sure that in the vote of thanks to Dr. Sherwood you included *implicite* this additional idea of a vote of thanks to Mr. Rhawn, without whose active interest the course could never have been given.

I am especially pleased with the success of this course, because I think it shows more fully the educational possibilities which lie in the system of instruction known as University Extension,

under which this course of lectures has been given, than any other course which has so far been given in Philadelphia. Mr. Rhawn says that the course is unique in this city. I think it is perfectly safe to go even further in this statement. Considering the length of time over which it has extended, and the thoroughness with which it has gone into the questions which have been discussed, there has been nothing of the kind given anywhere else in this country, or in England, so far as I have been able to find.

The object has been to provide everything necessary to realize the purpose which has distinguished this course,—serious, sober work systematically continued over a sufficient number of weeks to enable the members who took part in it to get some real advantage from their study and some real interest in the subject; and that sort of interest, too, which can come only from detailed work and from continued and connected thought; and as I said, I think that this course has been, from this point of view, one of the most successful that have been given under the auspices of the University Extension Society, for it has had no other element in it but the serious one of work; no attempt has been made to emphasize the catching or popular elements in the lecture course.

I have been especially pleased from another point of view, and that is, the relation which the department of the University with which I am connected has had towards this course. Many of you understand, perhaps, the fundamental idea underlying that department of the University,—the Wharton School of Finance and Economy. It is an attempt to carry out the system of education which uses as the material of instruction the great industrial, economic, social facts of human society. The old courses were made up chiefly of Latin, Greek, and mathematics; we are trying to win a place by the side of those older studies for the modern subjects as represented by this particular department of our modern life.

Of course we are realizing this idea along very different lines from what is possible in a course like this. You sometimes hear it said that we cannot expect any valuable educational result from these lectures, because we have such a very short amount of time to devote to the subject as a whole. The lecturer has only met you, I believe, twelve times,—a few of you oftener than that in the class of Saturday evenings,—and of course that compares, in number of times, very unfavorably with the number of times that the instructor meets his classes in regular college work.

On the other hand, there is a feature in this sort of instruction which tends in so far to diminish the difference between it and college instruction, and that is, the age and experience of the members who form the class. It is possible to do a sort of work, to take up the discussion and the study of a different kind of topics in a different way, with a set of men who have practical experience behind them and have come in contact with the actual business of our financial and economic life, which is absolutely impossible in the case of a set of college undergraduates; and as a result we find that in the system of lectures that have been carried on under our University Extension work it has not been an infrequent sight to see a large number of college graduates in the audience, as well as men who never attended any higher institution of learning.

Now, I want to say one other word as to the work of next year. In the University Extension Committee we are now discussing the question as to whether it is better, on the whole, to attempt to carry the course of lectures on the weekly plan, or whether it would not be better to have a lecture given every other week, allowing a greater lapse of time between the two lectures and thus giving more opportunity for study. We have a great many complaints from our students that the time between the lectures is not sufficient to enable them, in the midst of their other busy occupations, to follow up closely a systematic

course of reading. Now, I should like to ask a favor from the members of this class, and that is, an expression of opinion from you, sent to the care of the Society in this building, on this point,—whether, if a course is opened next year, in your own opinion it would be desirable to run it fortnightly or weekly. Of course if we should decide on fortnightly lectures, we should begin in October and carry it on for twenty-four weeks.

As I said before, this is the first place and the only place where a course of lectures like this has been successfully carried out, and I hope that this is simply the beginning not only of a systematic single course, but a systematic series of courses here and elsewhere. The Faculty of the Wharton School receive a great many requests for some kind of extension of instruction in these subjects which we have in the University, to be arranged at such hours and under such circumstances as would enable business-men to take advantage of it. Now, if it were a possible thing to outline a systematic course of lectures running over three or four years, so that any one of you who chose to take the time could follow through a course of that kind, I am sure you would get very many of the specific advantages that we have to offer in our particular work. If it is at all a feasible thing, I think I might promise you the co-operation of the University for that purpose.

On the other hand, it is, of course, quite a decided burden. I do not suppose any of you who have not attempted to work out such a lecture as Dr. Sherwood gave us to-night has any idea of the amount of time and energy that it takes to do this kind of work, as distinguished from the kind of work it takes in the college; since the conditions are so different that it calls for an entirely different kind of presentation. To do this adequately we must be in a position to make it a part of the regular work of some particular instructors, and let them look forward to carrying on these courses as a regular part of their work,—as regular as anything else connected with the University.



Now, to do that we must have some general interest in the subject. We have received a number of inquiries from members of this class as to the possibility of carrying some such plan out, but mere questions as to the possibility, of course, do not amount to much. Each one of you interested in this subject can assist very greatly in starting the work again in the autumn, if you will do what you can personally to interest other people in it.

I am sure that I shall voice your sentiments if, without asking you to take a formal vote on it, in the name of the Society, I extend to the Young Men's Christian Association our thanks for tendering us this very comfortable room for the lectures. They have not charged the Committee or the Society anything for the use of the room, and have thus given another illustration of the public spirit which is characteristic of all their work.

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MR. RHAWN.

IN accordance with the suggestion of Professor James, it will now be in order for some one to move that a vote of thanks be tendered by those who have attended this course, in which the Committee will most cordially unite, to the Young Men's Christian Association for placing this audience-room at our disposal during the entire course of lectures.

*Motion made, seconded, and unanimously adopted.*

A GENTLEMAN.—I think, in the paper which has been offered giving our thanks to Professor Sherwood, there was one thing omitted. We are much indebted to Professor Sherwood for the list of books to be read, given on pages 359, 360, and 361 of the syllabus. I have read quite a number of those books and have found every one of them very interesting, and they have enabled me to fix the instruction in my mind which he has given

us on the platform; and I would suggest that you all treasure these books as though they were worth their weight in gold, to refer to, and whenever you have any spare moments, to get one or other of these books and read them. So far as I have gone I have not found a single book among all the professor has recommended which has not amply repaid me for the time I have spent in studying it.

MR. RHAWN.—The suggestion is a good one, and I hope will be carried out. The course of lectures will now close.

# APPENDIX.

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## SYLLABUS

OF THE

PRECEDING COURSE OF TWELVE LECTURES

ON

# THE HISTORY AND THEORY OF MONEY

BY

SIDNEY SHERWOOD, PH.D.,

WHARTON SCHOOL.





# OUTLINE OF THE LECTURES.

## SIX LECTURES ON THE HISTORY OF MONEY.

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Money material. What man uses for money. Conclusions warranted by the study of monetary history. Silver and gold. Why they are the universal money-metals. Money work. What man uses money for. Money as the universal transfer-medium.	
2. COINS AND COINAGE . . . . .	367
Advantages of coinage. Disadvantages. Early history of coinage. Debasement of coins. Seigniorage. Standard coins and "tokens." The art of coinage.	
3. PRODUCTION OF GOLD AND SILVER—HISTORICAL FLUCTUATIONS IN THE VALUE OF MONEY . . . . .	371
Gold and silver before the Roman Empire. The precious metals under the Roman Empire. Precious metals in the Middle Ages. The "silver famine." The discovery of America. The silver age. California and the new golden age. The world's supply of gold and silver. Questions for discussion. The "tabular" or "multiple" standard.	
4. SUBSTITUTES FOR METALLIC MONEY—CREDIT-MONEY AND CREDIT . .	373
Origin of credit-money. Gresham's law and credit-money. Credit substitutes for money. Organization of credit. The banking system. Development of the banking system. Deposit and check system. Clearing-houses.	
5. THE PLACE OF BANKS IN THE MONEY SYSTEM, AS SHOWN IN THE HISTORY OF THE BANK OF ENGLAND . . . . .	376
Founding of the Bank of England. The banking functions exercised by the Bank of England. The bank "Restriction" of 1797. The "Bullion Report" of 1810, and resumption. The "Bank Charter Act" of 1844. The Bank of England and the Government.	
6. HISTORY OF AMERICAN CURRENCY . . . . .	378
American coinage. Colonial period. Silver period, 1792-1834. Gold period, 1834-78. Don't-know-where-we-stand period, 1878-92. American bank-notes. Colonial period. "Free banking" period. National bank period. Government paper money. Colonial government issues. Continental Congress period, 1775-89. Treasury note period, 1789-1861. "Greenback," or "legal tender" period.	

## SIX LECTURES ON THE THEORY OF MONEY.

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7. HISTORY OF MONETARY THEORIES . . . . .	382
Nature of money. Interest. Oriental ideas. Græco-Roman ideas. Ecclesiastical ideas. Mercantilist ideas. Theories of the capitalistic period. Value of money. Seigniorage. Recoinage. Theories of bimetallic circulation. Theories of bank-note currency. Theories of irredeemable paper money.	
8. VALUE AND DISTRIBUTION OF MONEY—RELATION OF THE QUANTITY OF MONEY TO NATIONAL PROSPERITY . . . . .	386
Law of value of money. Can law create or change value in money? Value and price. International distribution of money. Bullion export and import. Relation of quantity of money to national prosperity. Inflation. Contraction.	
9. PAPER MONEY, INCONVERTIBLE AND CONVERTIBLE . . . . .	389
Government paper money. Motives for the issue of government notes. Theory of government paper money. Economic effects of government paper money. Coin and bullion certificates. Bank-notes. Convertible bank-notes. "Banking Principle" and "Currency Principle." Limitation of issues. Securing of issues.	
10. THE BANKS AND THE GOVERNMENT . . . . .	392
The State and coinage. Paper money as a government prerogative. The State and the banking system. Banks of issue and banks of deposit. The State and bank-notes. Government monopoly of note-issue. Motives for government monopoly. Tendencies of the time.	
11. THE BATTLE OF THE STANDARDS—BIMETALLISM—THE SILVER QUESTION . . . . .	396
The single silver standard. The change to the single gold standard. The double standard. The silver question in the United States. Bimetallism. National bimetallism. International bimetallism. Political aspects of bimetallism.	
12. MONETARY PANICS . . . . .	399
The money-market. Credit and panic. Causes of monetary panics. The problem of managing a panic.	

## USEFUL BOOKS OF REFERENCE.

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THE literature of Money is so vast that a wise selection of a few books is almost impossible. The list here given is meant to contain books which are easily accessible, and which will tempt to further study after the lectures are finished.

Two books mentioned in the list—viz., Report of the International Monetary Conference of 1878 and W. S. Jevons's *Investigations in Currency and Finance*—contain extensive and valuable bibliographies of money which will be of great service in making a thorough study of the subject.

Reference to works in foreign languages has been avoided. The French literature on this subject is very rich; the Italian and German also. The student reading any of these languages can easily find trace of the books he needs from references in the books here mentioned.

### THE GENERAL SUBJECT OF MONEY.

- Andrews, E. B., *Institutes of Economics*.  
Bastable, C. F., "Money." *Encyclopædia Britannica*.  
Colwell, Stephen, *Ways and Means of Payment*.  
Ely, R. T., *Introduction to Political Economy*.  
\* Jevons, W. Stanley, *Money and the Mechanism of Exchange*.  
Mill, J. S., *Principles of Political Economy*.  
Nicholson, J. S., *Money and Monetary Problems*.  
Patterson, R. H., *The Science of Finance*.  
Poor, H. V., *Money: its Laws and History*.  
Ricardo, David, *Works*.  
Smith, Adam, *Wealth of Nations*.  
† Walker, Francis A., *Money in its Relations to Trade and Industry*.  
——, *Political Economy* (larger edition).  
——, *Money*.  
Walker, J. H., *Money, Trade, and Banking*.  
Willson, H. B., *Currency*.

### SPECIAL MONETARY TOPICS.

- Ashley, W. J., *English Economic History*.  
Atkinson, Edward, *Report on Bimetallism in Europe*. (Sen. Exec. Doc., No. 34, 50th Congress.)

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\* Text-book of the course, which should be in the hands of every student.

† Ibid.

- Bagehot, Walter, Lombard Street: A Description of the Money-Market.  
 Böhm-Bawerk, Capital and Interest.  
 Bolles, Financial History of the United States.  
 Carey, H. C., Pamphlets on the Currency. *See* Works, Vol. XXXI.  
 Dunbar, C. F., Theory and History of Banking.  
 Evans, History of the United States Mint and Coinage.  
 Giffen, Robert, Essays in Finance.  
 Gilbert, J. W., History, Principles, and Practice of Banking.  
 Goschen, Theory of the Foreign Exchanges.  
 Horton, S. Dana, Gold and Silver.  
 —, The Silver Pound.  
 —, Report of International Monetary Conference of 1878. (Sen. Exec. Doc., No. 58, 45th Congress.)  
 Ingram, J. K., History of Political Economy.  
 Jacob, William, Historical Inquiry into the Production and Consumption of the Precious Metals.  
 James, E. J., "Banks of Issue." Lalor's Cyclopædia.  
 Jevons, W. S., Investigations in Currency and Finance.  
 Knox, John Jay, United States Notes.  
 —, "Banking in the United States." Lalor's Cyclopædia.  
 Laughlin, J. L., History of Bimetallism in the United States.  
 Laws of the United States relating to Loans, Currency, Coinage, and Banking. (Compilation published by the Government in 1886.)  
 Leslie, T. E. C., Essays in Political and Moral Philosophy.  
 Linderman, H. R., Money and Legal Tender in the United States.  
 Liverpool, Lord, A Treatise on the Coins of the Realm.  
 Macaulay, T. B., History of England.  
 Patterson, R. H., The New Golden Age.  
 Rogers, J. E. T., The First Nine Years of the Bank of England.  
 Sherman, John, Speeches and Reports on Finance and Taxation.  
 Sumner, W. G., History of American Currency.  
 Upton, J. K., Money in Politics.  
 Wells, David A., Recent Economic Changes.

### MISCELLANEOUS.

- Annual Finance Reports of the United States, containing reports of  
 Comptroller of the Currency, Director of the Mint, etc.  
 Congressional Record.  
 House and Senate Documents.  
 Report of the International Monetary Conference of 1878.  
 Journal of the Royal Statistical Society, London.  
 American Bankers' Magazine.  
 Rhodes's Journal of Banking.  
 Reports of the Annual Meetings of the American Bankers' Association.



Bradstreet's and other periodicals devoted to economic, financial, commercial, and monetary subjects.

Encyclopædia Britannica.

Lalor's Cyclopædia of Political Science, Political Economy, and United States History.

## OUTLINE OF A COURSE OF READING.

Two books are essential, and should be *carefully studied* :

1. Jevons's Money and the Mechanism of Exchange.
2. Walker, F. A., Money in its Relations to Trade and Industry.

For the purpose of this course of lectures, no substitutes for these books could be suggested which would be of equal worth. If students wish to purchase a few more books, the following are recommended : Knox, United States Notes ; Dunbar, Theory and History of Banking ; Andrews, Institutes of Economics ; Bagehot, Lombard Street ; Sumner, History of American Currency ; Laws of United States relating to Loans, etc., 1886.

## SHORT COURSE OF READING.

Jevons and Walker should be followed by the reading suggested at the beginning of each lecture. The reader will find frequent reference in these books to other books, and can follow the line of his special interest still further if he wishes. Some good text-book in Political Economy should be always at hand for the close study of the economic principles involved. Walker and Andrews are especially good on money.

## LONGER COURSE OF READING.

After Jevons and Walker, Professor Bastable's article on "Money," in the Encyclopædia Britannica (9th ed.), may be read as giving an admirable general review of the subject.

The historical evolution of money and money substitutes should be grasped before going deeply into the theory and the practical aspects of the subject.

Enough is given in Jevons, Walker, and Bastable on the subject of primitive money. Books of travel, writings of anthropologists, accounts of early institutions, history of ancient or barbarous peoples, old laws, early records of state, etc., furnish innumerable instances of all types of early money. The student should form the habit of making all his general reading aid his systematic special study.

On the subject of coins and coinage, read articles "Mint" and "Numismatics," in the Encyclopædia Britannica, Liverpool's Coins of the Realm, pp. 25-56, Walker's Money, Chapters IX., X., XI., and Linderman's Money and Legal Tender. Linderman was formerly Director of the Mint, and has given a very clear and interesting account of the history of United States coinage and some of the processes of coinage. Consult the Laws relating

to Loans, etc., 1886. The coinage laws from 1792 to 1886 are there given, pp. 211–288. Consult, also, Evans, United States Mint and Coinage. *Visit the Mint*, and learn as much as possible of the technical processes of coinage, and examine the various collections of United States and foreign coins.

The subject of the production of the precious metals is very important. Jacob's book is the great authority, and will repay reading through, although rather long. Walker's *Money* (the large work), in Chapters V.–VIII., treats historically of this subject, and follows Jacob quite closely. An excellent plan would be to read these chapters in Walker, referring constantly to Jacob, and reading such parts as are of special interest. Having thus got the general facts clearly in mind, read Adam Smith, *Wealth of Nations*, Book I., Chapter XI., "Digression on the Variations in the Value of Silver," for the sake of getting an idea of this old master. The most valuable discussions of the problems involved by great discoveries of gold and silver have been written since 1850. Read in Laughlin's *Bimetallism*, Chapter V., on the gold discoveries; VIII., on production of gold since 1850; and XII., on cause of fall in value of silver. Follow this with the essay in Nicholson's *Money* on the "Effects of Great Discoveries of the Precious Metals," and Chapter VII. in the same book, on the international influences that fix general prices. The second article in Jevons's *Investigations*, etc. (on the fall in the value of gold), may then be read, followed by "Changes in General Prices and in the Purchasing Power of Gold," being Part VII. of Appendix D in Atkinson's *Report on Bimetallism*. Various other parts of this Report will be found helpful. Patterson's *New Golden Age* may be consulted with much profit. Wells's *Recent Economic Changes* is excellent, as pointing out other factors than the quantity of money which may be operative in change of prices.

Passing on to credit substitutes for money, we take up first the "Organization of Credit" in the Banking System. Begin with Adam Smith's account of the Bank of Amsterdam, *Wealth of Nations*, Book IV., Chapter III., Part I. Then read the chapters of Gilbart's *Banking*, indicated below. Mr. Gilbart was a practical banker for half a century, from his twentieth year till his death in 1863. After twenty years' experience in a London and in an Irish bank, and after publishing various writings on the subject of banking, he was made General Manager of the London and Westminster Bank,—the first of the Joint-Stock Banks in England, opened in 1834. It was largely through his efforts that the Joint-Stock Banks survived the opposition encountered on every side, and became established as a part of the English banking system. His book may be relied on for accuracy, and is clear in statement. Read §§ I. and II. for the early history of banks in England and elsewhere; §§ III.–VI. for an account of the Bank of England and the other English banks; § XXVIII. for a discussion of the relation of the Bank of England to the currency since the Act of 1844; § XXXV. for a sketch of the Clearing-House; and §§ XXXVI. and XXXVII. for a history of the

crises of 1857, 1866, 1875, and 1878. Macaulay, in *History of England*, Chapter XX., tells in his graphic way the story of the founding of the Bank of England. It would be well to read also his third chapter on the state of England in 1685, and his account of the controversy over the Recoinage Act of 1696 (Chapter XXI.). Rogers's *First Nine Years of the Bank of England* is very suggestive, admirably bringing out the political side of the movement for the Bank. Then read Professor Sumner's discussion of the "Bank Restriction" in his *History of American Currency*, which also contains the "Bullion Report." Ricardo's *Works* might well follow. Read Chapter XXVII. in his *Principles of Political Economy*, on "Currency and Banks," and also one or two of his classical essays on currency questions. Next take up Bagehot's *Lombard Street: a Description of the Money-Market*, a book written with all the nervous vigor and keen insight of this versatile author. While the book treats mainly English conditions, a clever shifting of recitals to the American money-market will throw much light on the intricate subject.

This reading will have taken the student over the Bank Charter Act of 1844 and its effects. Then read the article in Lalor on "Banks of Issue," by Professor E. J. James, to get a general view of the subject and a clear idea of the scientific questions involved.

Turning now to American Currency and Banking, the article in Lalor, by John Jay Knox, on "Banking in the United States," will be found the best introduction to the subject. He has described the National Bank system in his report as Comptroller of the Currency (*Finance Report*, 1875). Then read Sumner's *History of the American Currency*. The subject of paper money is best approached through the history of American Government issues, both colonial and national. Follow Sumner with Knox's *United States Notes*, Upton's *Money in Politics*, and Sherman's *Speeches on the Currency*. The Government compilation of *Laws relating to Loans and the Currency, Coinage and Banking*, published 1886, and before mentioned, should be constantly at hand for reference. Study the *Legal-Tender Act* and *Legal-Tender Cases*, the National Bank system, and the present coinage laws of the United States, so as to understand clearly our present currency. Bolles's *Financial History of the United States* is especially useful. Colwell's *Ways and Means of Payment* is an able, systematic treatise on money and credit, and might well be read at this point.

This reading will bring into view the principles underlying the whole monetary system as well as the practical questions at issue. For clear exposition and able discussion of these principles, especially in regard to the part played by credit as organized in the banking system, turn to J. H. Walker's *Money, Trade, and Banking*, C. F. Dunbar's *Theory and History of Banking*, and R. H. Patterson's *Science of Finance*. This latter book discusses also the question of the relation of the state to the currency.

The problem of the monetary standard remains,—*"The Battle of the Standards."*



A great classic is *A Treatise on the Coins of the Realm*, by Lord Liverpool, published at Oxford in 1805. The writer had held many high offices,—Secretary of the Treasury, Lord of the Treasury, President of the Board of Trade, among others. In 1774 he had successfully urged the recoinage of the gold coins. England had always had a silver standard; gold, however, being a legal tender at a certain fixed ratio to silver. The silver had become very worn. Coin was scarce, the bank having stopped specie payments in 1797. Lord Liverpool urged the change from a silver to a gold standard, the making of gold the sole, full legal tender, giving only a small legal-tender limit to silver as a subsidiary coin. This policy was substantially carried out by the Recoinage Law of 1816, which as amended in 1870 is the English law to-day, and Englishmen have now forgotten that they ever had a silver standard. S. Dana Horton says of this Treatise, it “became the great charter of Monetary Right for the Nineteenth Century.” It contains much valuable historical information on English coinage, as well as formal discussions of the nature and functions of money and the principles applying to a monetary system. Its bearing upon the bimetallic controversy is obvious. Then read Ricardo’s essay, “Proposals for an Economic and Secure Currency.” The book to be next read is Horton’s *The Silver Pound and England’s Monetary Policy since the Restoration*, or Horton’s *Gold and Silver*. Laughlin’s *Bimetallism in the United States* should follow. The Report of the International Monetary Conference of 1878 is very valuable, containing an appendix filled with historical material bearing on this question, a brief account of the Latin Monetary Union, and an extensive bibliography mentioned above. Atkinson’s Report on Bimetallism in Europe will also be found useful. Nicholson has several good essays in favor of Bimetallism in his *Money and Monetary Problems*. Giffen writes on the other side. Read also Jevons’s essays on the subject in his *Investigations*, etc., and the chapter on “Bimetallism” in Walker’s *Political Economy*. Henry C. Carey’s Pamphlet on Financial Crises, and Willson’s *Currency*, pp. 250–284, would be a good introduction to the subject of panics. Follow with Jevons’s essays on Crises, in his *Investigations*, etc., and with Wells’s *Recent Economic Changes*.

A work of the highest importance is Lalor’s *Cyclopædia of Political Science*. It should be diligently referred to throughout this entire course of reading. The unique value of this book is that it contains the whole political and economic history of the United States in compact form, and with abundant reference to special authorities, while at the same time treating particular questions not merely in the light of American experience, but with a broad outlook upon European conditions, and in a manner truly scientific.

Finally, when the above outline of reading is exhausted, take up Andrews’s *Institutes of Economics and study* Part II., Exchange; Part III., Money and Credit; Part IV., Chapter III., Interest; Part VI., Chapters I.–III., United States Currency. It is compact with suggestive thought and an excellent stimulus to independent thinking on the part of the reader.



# THE HISTORY AND THEORY OF MONEY.

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## LECTURE I.

### MONEY AND CIVILIZATION.

**References.**—Jevons, Ch. I.—VI.; Walker, Ch. I.; Walker, Pol. Econ., §§ 159–168, 182–187; Andrews's Institutes, Part III., Ch. I.; Art. "Money," Ency. Brit., Parts I., III., IV.

A nation stamps the history of its civilization into its coin.  
What the future historian might learn from the gold eagle and the silver dollar of the United States.

What we learn from ancient coins about ancient peoples.

Whether we study the progress of mankind chronologically from the cave-dwellers of the earliest human age to the cultured Paris of to-day, or geographically from the heart of Stanley's Africa to the heart of London, we find that the history of money is the history of civilization.

#### Money Material. What Man uses for Money.

*Examples of Uncoined Money.*—(1) Metal by weight,—“And Abraham weighed to Ephron the silver, . . . four hundred shekels of silver, current (money) with the merchant” (Genesis xxiii., 16), (2) Non-metallic money,—“cattle money” of Homer, “wampum” of ancient America, “tobacco money” of colonial Virginia.

*Barter.*—The direct exchange of goods for goods, of goods for service, of service for service. The rudest form of exchange.

“The African Barter Company, Limited,” of London.

#### Conclusions warranted by the Study of Monetary History.

- (1) Simple barter is a mark of a rude age or a rude people. It is commercial barbarism.
- (2) The commodity which is used for money is generally the product of an important industry of the people.
- (3) Almost every article of use to man has been used as money.
- (4) With progressive peoples the metals are soon preferred to other substances as money material.

- (5) With industrial and commercial progress, the evolution of money is towards the use of a more and more valuable metal, iron, copper, silver, gold.

"It has been found by long experience, and by the concurrent opinion of civilized nations in all ages, that these metals, and particularly gold and silver, are the fittest materials of which money can be made." (Lord Liverpool, *Coins of the Realm*, p. 9.)

- (6) Coined money argues a relatively high degree of political and industrial development.

### **Silver and Gold. Why they are the Universal Money-Metals.**

Lord Liverpool says (page 9) they

- (1) Are homogeneous in substance.
  - (2) Are minutely divisible.
  - (3) Have great value in small bulk.
  - (4) Are not subject to decay.
- Suggest other advantages.

### **Money Work. What Man uses Money for.**

Imagine Philadelphia or New York suddenly stripped of all its money.

The same goods in the stores as before. The same materials and machinery in the factories. The same rolling-stock on the railroads. The same hungry million of people. Will exchange go on at the store, or production at the factory?

The economic basis of civilization is "Division of Labor," or, more fully, the organization in society of specialized industries.

Facility in the transfer of goods becomes thus the great material characteristic of civilized society.

The picture of a moneyless modern city shows us that this facility of transfer, and therefore this specialization of industry, are made possible only by means of

### **Money as the Universal Transfer Medium.**

Savigny says, "Geld ist eine allgemeine Vermögens-Macht" (Money is a universal purchasing power; or, money gives its owner universal power over commodities). The producer seeking capital and the consumer seeking product both obtain the end sought by means of money. *The Science of the Market* is an important part of Political Economy.

Production has at least three well-marked stages:

- (1) Production of raw material, as agriculture.
- (2) Manufacture, or production of form value.
- (3) Commerce, or production of place and time values, by *getting the goods to market*.

A "market" may be defined as the *meeting of demand and supply*. As the means of transportation bring supply to meet demand, money and credit are the means of bringing demand to the production and consumption of supply. Agriculture and manufacture may conceivably be carried on in a purely local "market" and by means of barter or rude money, involving immediate consumption. Commerce implies a wider "market." Industrial civilization has been merely a process of *widening the "market."* Money has been a necessary agent in this process; it commands commodities in the world-market and for consumption indefinitely deferred.

Thus, the instinct of saving, the growth of capital, improvements in transportation, a widening commerce, the spread of intelligence, the extension of moral obligations,—all the characteristics of economic civilization demand the use of money. Money, it is true, does not make man civilized, but civilized man makes money. It *is* true, historically, that man without money is uncivilized **man**.

## LECTURE II.

### COINS AND COINAGE.

**References.**—Jevons, Ch. VII., VIII., X., XI., XIII.; Bastable, "Money," Ency. Brit., Part V., VI.; Walker, Pol. Econ., §§ 168, 179–181, 192–204; Andrews's Inst., §§ 75, 76, Art. "Mint," Ency. Brit.; Walker, Money, Ch. IX., X., XI.

No better definition of coin than Lord Liverpool's (Coins of the Realm, p. 9),—"Certain portions of these metals, with an impression struck upon them by order of the sovereign, as a guarantee of their purity and weight, serve as coin." Coinage supplants earlier usage of weighing the metals at each transaction. "There can be little doubt that every system of coinage was originally identical with a system of weights, the unit of value being the unit of weight of some selected metal" (Jevons, p. 89),—shekel, talent, æs, stater, libra, pound, etc. Coinage thus only a government certificate of weight and fineness, so that the pieces may be taken by mere count.

#### Advantages of Coinage.

- (1) Uniform fineness.
- (2) Ease of ascertaining value.
- (3) Fraud rendered more difficult.

- (4) A badge of nationality. "Whose is this image and superscription?"

Suggest other advantages.

### Disadvantages.

- (1) International circulation impeded.

This is rather an argument for an international system of coinage.

- (2) Cost of coinage. But more than offset by increased efficiency of the coined metal.

Suggest other disadvantages.

### Early History of Coinage.

Earliest known coinage was by Greek peoples of Asia Minor and Greece, between 700 and 900 B.C. Roman coinage began between 500 and 600 B.C. Exceedingly rude. Bronze *æ*s, being pound weight divided into twelve ounces. Roman silver coinage began about 281 B.C.,—denarius or ten *æ*ses. Gold coined at Rome about 90 B.C.

Coining spread to the East from Greece. From Rome the northern nations acquired the art. Throughout the Middle Ages coins after the pattern of the Roman denarius were issued in Germany, France, England, and Scandinavia.

The Tower Pound or Saxon Pound the basis of English silver coinage. Substantially the same as that in use in Germany and France. The Pound was of twenty shillings, each shilling of twelve pence. The Pound Weight was of twelve ounces, each ounce of twenty pennyweights. Each penny then weighed one pennyweight, and two hundred and forty pence as well as two hundred and forty pennyweights made one Pound. This is supposed to be the system of Charlemagne. (Liverpool, *Coins of the Realm*, p. 29.)

### Debasement of Coins.

Universal, almost, in the history of coinage.

Athenian depreciation by Solon to help the debtors, a famous example.

Roman depreciations began probably in the distresses of the Hannibalic war.

English depreciations. "In the reign of William the Conqueror a pound weight of silver was also the pound of account." (Peel's Speech on Bank Act of 1844.) The standard of fineness was eleven ounces two pennyweights silver, and eighteen pennyweights alloy, in the pound. This standard of fineness was maintained from the earliest times, except for the years 1542-60.



Coins are debased in two ways,—

- (1) By diminishing the weight of a given coin, the standard of fineness remaining unchanged.
- (2) By diminishing the fineness of metal in a given coin, the standard of weight remaining unchanged.

English silver has been repeatedly debased in the first way. Edward I., in 1300, "coined the pound weight of sterling silver into twenty shillings and three pence," instead of twenty shillings, as formerly. Successive debasements followed until Elizabeth, who, although she restored the standard debased by her father, still further reduced the weight, coining sixty-two shillings to the pound weight,—the last debasement until 1816. This was a total debasement of about sixty-seven per cent. Several unsuccessful attempts were made thereafter to further debase the coin, the most notable being the proposition of Mr. Lowndes, in 1695, to coin the pound into seventy-seven shillings and six pence, defeated by the efforts of John Locke, Sir Isaac Newton, and others. Macaulay's *History of England*, IV., 493, vividly describes the causes which led to this agitation and to the Recoinage Act of 1696.

These debasements were often simply the recognition by the government of the fact that through wear and clipping the coins were actually depreciated (Nicholson, *Money*, 42), yet sometimes they were made for the profit of the exchequer. Depreciation in value does not always follow debasement.

## Seigniorage.

Coinage from early times considered the prerogative of the sovereign. Systems of private free coinage by individuals and of coinage monopolies granted by government have both failed of the highest results. The almost universal practice and theory is governmental coinage. Herbert Spencer, however, vehemently urges the doctrine of private coinage. A part of his theory of absolute non-interference by government in industrial affairs.

Seigniorage is the charge made by the government, or other coiner, for coining. In theory, it is a deduction from the bullion brought for coinage, at least sufficient to cover cost of coinage. Many governments have, by deducting more than this, debased the coinage and made large profits. The general usage now is to make no charge for coining the standard money. Subsidiary and token-coins are, however, intentionally made below the standard, and governments derive large profits from coining them. The cost of coinage, however, is enormous, if interest on the value of the metal employed is calculated, and seigniorage could not well cover this.

*Gratuitous coinage* is coinage without seigniorage. *Free coinage* is the equal and unlimited right to owners of bullion to have it coined. Free coinage may be gratuitous or not.

### Standard Coin and "Tokens."

Standard coin is coin the metallic value of which is, theoretically at least, equal to its legal value. "Token" coin is coin the metallic value of which is less than its legal value. It is a promise to pay in standard coin. Form of a private copper token of 1791, in Southampton, England: "Half-penny Promissory, payable at the office of W. Taylor, R. V. Moody & Co." The principle of circulation of "tokens" the same as that of paper money. The metallic value of the bronze coinage of Great Britain is not more than one-quarter its nominal value.

### The Art of Coinage.

Of slow development. The first coins had impression only on one side. Reverse had simply punch-mark. The punch was struck by a hammer. Gradually the punch became a second die. Some ancient coins were cast. English coins still struck by hammer in seventeenth century. "Milling" introduced in seventeenth century, and screw succeeded the hammer. A visit to the mint the best way to learn the perfected methods of modern coining.

As to form, alloy, size, and execution of coins, the objects to be aimed at are,—

- (1) To prevent counterfeiting.
- (2) To prevent fraudulent removal of metal from the coin.
- (3) To reduce loss of metal by legitimate wear and tear.
- (4) To make the coin an artistic and historical monument of the state. (Jevons, Ch. VII.)

Suggest others.

## LECTURE III.

PRODUCTION OF GOLD AND SILVER. HISTORICAL  
FLUCTUATIONS IN THE VALUE OF MONEY.

**References.**—Walker, Ch. II., III., IV., V.; Walker's Money, Ch. V.–VIII.; Laughlin, Bimetallism, Ch. V., VIII., XII.; Jevons, Investigations, etc., Essay IV.; Jevons, Ch. XXV., "Tabular Standard;" Nicholson, Ch. V., and Part II., Ch. VII. and VIII.

**Gold and Silver before the Roman Empire.**

The Bible and all earliest history show gold and silver in use. Gold of Ophir, silver of Tarshish. Enormous quantities amassed by Eastern princes. Produced by slave labor and capture, and not in obedience to "commercial demand." "They remained treasure; they did not become money." "They were distributed not by trade, but by war."

**The Precious Metals under the Roman Empire.***Important Facts.*

- (1) By conquest the vast treasures of gold and silver were brought into the Empire.
- (2) The metals passed into circulation as money far more than before, creating a continuous and growing demand for them.
- (3) The mining industry was gradually broken up. This fact, together with the cessation of conquest, cut off sources of money-supply.
- (4) Rapid decrease in amount of precious metals in use under Empire.

**Precious Metals in the Middle Ages (476 A.D.–1492). "The Silver Famine."***Important Facts.*

- (1) Cessation of mining. "In this period, from about 480 to 670 or 680, the greatest diligence has been able to discover no trace in any author of the operations of mining having been carried on." (Jacob, Ch. X.)
- (2) Revival of mining after Saracenic conquests of eighth century, sufficient to keep the reduced stock from further reduction till discovery of America.

### The Discovery of America. The Silver Age (1492-1848).

The silver mines of Potosi were discovered in 1545. It was mainly through Spain that the gold and silver of America at first found their way to Europe. From 1570 to 1640 was the period of greatest inflation. Estimated production of gold and silver during this period. Money fell to one-fifth its former value.

#### *Effects in England of this Increase of Money-Metals.*

- (1) Upon the land-owning class.
- (2) Upon agriculture.
- (3) Upon wage-earners.
- (4) Upon commerce.

### The New Golden Age

Began with discovery of gold in California in 1848. Notwithstanding the enormous yield of the Californian and Australian mines, prices have risen far less from this inflation of the money-metal supply than from the silver three centuries earlier.

### The World's Supply of Gold and Silver.

A new silver age began likewise in 1859, with the discovery of the Nevada mines. In 1889 the world's production of silver was \$158,759,468; of gold, \$120,971,514. Silver has been largely demonetized since 1870, through fear of excess of money-metal. Opinions of Professor Shaler, of United States Geological Survey, and others, as to whether the present rate of production may continue. (Sen. Exec. Doc., No. 34, 50th Cong., App. C.) Amount of gold and silver used in the arts.

### Questions for Discussion.

- (1) Did the falling prices of the later Roman Empire cause or hurry the decline of the Empire?
- (2) Why was the rise of prices from the Spanish imports of silver so much greater and more violent than the rise since 1848?
- (3) The value of money itself is variable from age to age. "If the measure shall have lost its measure, wherewith shall it be measured?"

### The "Tabular" or "Multiple" Standard.

Grain, in some respects, is a more stable standard for long-time payments. The remedy proposed is the so-called "Multiple" Standard,—being a combination of several of the most stable products,



—payment being made by the money value at the time of payment of the agreed number of units of this combined standard. The advantages of such a standard are great in long-time payments, but the practical difficulties have not yet been mastered.

## LECTURE IV.

### SUBSTITUTES FOR METALLIC MONEY. CREDIT-MONEY AND CREDIT.

**References.**—Jevons, Ch. VIII., XV., XVI., XVII., XIX., XXIII.; Smith, *Wealth of Nations*, Book IV., Ch. III., Part I.; Nicholson, Ch. IV.; Walker, *Money*, Ch. XV.; James, "Banks of Issue" (*Lalor's Cyclo.*); Dunbar, Ch. II., IV., VII.; Mill, *Pol. Econ.*, Book III., Ch. XI., XII.

It must be remembered that we treat merely the economic, not the moral, aspects of this question.

#### Origin of Credit-Money.

- (1) What makes any currency circulate is the confidence that each receiver of the money will be able to pass it on to another person without trouble.
- (2) The force of habit keeps worn coins circulating. Some instances of debasement of coin rest upon this fact. If the worn coin circulate as full coin, why cannot the new coins be issued of equal weight with worn coins, yet of full face value?
- (3) The necessities of small change early forced the issue of private "tokens" in England. James I. and Charles I. suppressed private "tokens" and granted monopolies. Vast over-issues of farthing "tokens" drove nearly all other coin out of circulation. "At last it came to be understood that the proper plan was to make the small coins of nominal value only, to suppress private issues, to strictly limit the issues by government, and to make them legal tender only for a limited amount." (Nicholson, p. 57.)
- (4) The practice of taking seigniorage and this circulation of light and "token" coins have suggested the idea of "representative" money, of which "Paper" is the modern form. The Carthaginians and Chinese had leather representative money.
- (5) The next step is an inconvertible non-metallic currency. The government "coins" paper into money. Credit, custom, and money-need are the foundation of a paper currency.

- (6) "Gresham's law,"—that bad money always drives out good money,—applied at first to light-weight coin, applies equally to two currencies circulating together. A better statement would be, *given a superabundant mixed currency*, "the better money leaves before the worse."
- (7) The history of colonial paper money in the United States is the richest in interest and instruction. Secured and unsecured issues were tried. The colonies tested to the full the operation of Gresham's law. See Lecture VI.
- (8) Another form of credit-money, *bank-notes*, received its first systematic development in England. While in modern banks the function of note-issue has become separated in theory, and to a great extent in practice, from the functions of deposit and discount, the earlier banking confused them. In England and America "Banking" privilege was long regarded as merely the right of note-issue.

### Credit-Substitutes for Money.

Promissory notes, book-credits, and bills of exchange are of very ancient origin. A Babylonian tablet of some five centuries B.C. is a promissory note, renewed several times, and interest added as stipulated in the original note. Another transaction shows a book-credit where the price of a field is set over against the price of a slave and the balance paid in money. (Aus dem Babylon. Rechtsleben, pp. 13, 14. Kohler.) Paper money and bank-notes are merely forms of promissory notes. The use of any of these modes of deferring payment lessens the need for money. Their use did not become systematized until after the establishment of banks.

### Organization of Credit. The Banking System.

Several of the ancient commercial nations had some form of banking, notably the Jews, Greeks, and Romans. No historical connection, however, between ancient and modern banks.

The Bank of Venice is supposed to take its origin from the government forced loan of 1156. Gilbart says it was a "corporation of public creditors." The Bank of St. George, at Genoa, called by Bagehot "a finance company," founded in 1407, was a similar institution. The Bank of England (1694) and the first Bank of the United States (1791) were in some respects of the same type.

The Bank of Amsterdam. Founded 1609. Necessitated by evils of light and clipped coin. Its "bank-money" practically only a system of transfer on the books of the bank of credited deposits of coin, the deposits remaining intact in the bank. Its relation to the city government. Its efficiency and influence. Its imitators.

The Bank of Sweden. Founded 1656. Issued bank-notes of modern type in 1658.

Beginnings of English Banking.

*English Commerce in the Seventeenth Century.*—(1) Rivalry with Holland. (2) Internal disorders. Political and religious struggles. (3) Colonization schemes. (4) Chaotic state of the currency.

There was an unprecedented expansion of industry and commerce, in face of an utterly inadequate and chaotic currency, and an absence of any credit system. From the struggles of that century emerged alike the beginnings of the modern political system of England and the beginnings of the English commercial supremacy of the world.

During the Commonwealth a scheme for a bank was proposed, to rival Amsterdam, but was unsuccessful. The London goldsmiths as bankers. "Goldsmiths' notes" the first English bank-money. The Bank of England founded in 1694.

### Development of the Banking System.

Importance of the modern banking system shown in its marvellous extension, and in the progressive refinement of its methods. Jevons (p. 190) gives the following "development of methods of exchange":

- "(1) Replacement of standard money by representative money.
- "(2) Intervention of book-credit.
- "(3) The check and clearing system.
- "(4) Use of foreign bills of exchange.
- "(5) International clearing system."

To such an extent has banking usurped the functions of money, that about ninety-five per cent. in value of transactions are paid in checks, drafts, etc., leaving less than five per cent. for paper money and less than one per cent. for coin. (J. H. Walker, Money, Trade, and Banking.)

## LECTURE V.

THE PLACE OF BANKS IN THE MONEY SYSTEM,  
AS SHOWN IN THE HISTORY OF THE BANK OF  
ENGLAND.

**References.**—Jevons, as in Lecture IV., also Ch. XX., XXI., XXII., XXIV.; Walker, Ch. X., XI.; Macaulay, Hist. Eng., Ch. XX., "Bank of England," XXI., "currency Reform;" Gilbert, Vol. I., §§ 1-6; Bagehot, Ch. VII., VIII.; Dunbar, Ch. X.; Sumner, Hist. Amer. Currency, Part II., on "Restriction."

## Founding of the Bank of England.

The Bank of England was "a Whig finance company" (Bagehot, p. 92). William and Mary needed a loan to carry on war with France. Under cover of an act laying certain tonnage duties on vessels, a banking charter was granted in 1694 to the subscribers to the loan, under the name of "The Governor and Company of the Bank of England." The scheme was bitterly opposed by Tories and by private bankers and rival bank projectors. The powers of the bank were "to deal in bullion and bills, to issue notes, and to make advances on merchandise." They loaned the government £1,200,000, which constituted their capital.

Was Alexander Hamilton's policy in the establishment of the first United States Bank a conscious imitation?

## The Banking Functions exercised by the Bank of England.

- (1) The bank began as a financiering agent of the government.
- (2) The "giving of good money" not an object of the bank, as of the continental banks. England restored her clipped and wasted coinage by the Recoinage Act of 1696.
- (3) It was a bank of deposit, notes being issued for deposits. The continental system of that period was to receive coins of all countries at bullion value and issue notes (certificates) for them, holding all the coin on deposit. The English system, begun by the goldsmiths, was to trade with the deposits, holding only a reserve. The American coin certificates and bullion certificates a return to the old continental system.
- (4) It was a bank of discount.
- (5) It was a bank of issue. Part of its advances to the government were in its notes. Its first notes bore interest and were transferred only by endorsement. In 1697 it was given a practical monopoly



and the right to issue notes to bearer. This is the real beginning of the "bank-note."

### The Bank "Restriction" of 1797.

In danger of a French invasion, the English government, fearing exhaustion of the bank reserve, forbade payment in specie by the bank. This "restriction" continued till 1819. The over-issue of bank-notes gained large profits for the bank and depreciated the notes. The most memorable contest in the history of currency was carried on in regard to resumption of specie payments.

The "Bullion Report" of 1810, the great monetary document in this discussion, holds,—

- (1) That if gold is at a premium in paper, the premium measures the depreciation in the paper. The paper is depreciated; gold is not appreciated.
- (2) A continued drain of the precious metals from the country, aside from exportations to purchase food, pay armies, etc., is due to the presence of an inferior currency.

The plain remedy, then, according to the report, was resumption. The bank opposed this, and was successful. Resumption did not take place till 1819; but the bank afterwards adopted the principles of the report. In the mean time—1816—England had changed from her former silver standard to a gold standard.

### The Bank Charter Act of 1844.

In 1826 the monopoly of note-issue by the Bank of England was restricted to a radius of sixty-five miles from London, and joint-stock banks legalized. The extension of bank-note circulation thus permitted led to another bitter controversy as to whether bank-notes could be over-issued under a free-banking system.

The Act of 1844 completely reorganized the banking system of England.

- (1) The banking department and the issue department of the Bank of England were completely separated.
- (2) The note-issues, without specie basis, of the Bank of England were limited to £14,000,000; since slightly increased.
- (3) No London bank, nor any bank chartered after the Act, was allowed to issue notes. Issues of country banks then existing were limited to ordinary previous circulation.

#### *Summary.*

- (1) The Bank of England the first great bank to work out and maintain a system of note-issues based on the credit of the bank, without full coin or bullion guarantee.

- (2) It was the first great bank to work out and maintain a system of treating *deposits as loans*, and thus to trade with deposits beyond a prudent reserve.
- (3) The "restriction," with its controversies, have *made* the economic doctrines of the world in regard to the circulation of an inferior currency, particularly an irredeemable paper currency, by the side of a superior one.
- (4) The history of the bank since 1844 has shown how powerfully governments may influence the money-market for good or evil.
- (5) The English currency to-day is dependent upon its great bank. The English ideal is a coin currency for ordinary transactions, and a note circulation for larger affairs. The five-pound note is the lowest note; but the issue of one-pound notes is a live question in England now.

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## LECTURE VI.

### HISTORY OF AMERICAN CURRENCY.

**References.**—Knox, "Banking in the U.S." (Lalor's Cyc.), or his reports as Comptroller of the Currency (Finance Reports, 1875, 1876); Sumner, Hist. Amer. Currency; Walker, Ch. XII.; Dunbar, Ch. IX.; Upton, Money in Politics; Andrews, Part VI., Ch. I., II., III.

#### American Coinage.

##### I. *Colonial Period.*

The coins consisted of a few English coins, chiefly silver shillings. Various foreign coins circulated at rates fixed by colonial governments, and a few coins struck at mints set up in Massachusetts and Maryland. Origin of the "Dollar" and the various "Shillings."

##### II. *Silver Period, 1792-1834.*

The United States Mint was established in 1792, upon a plan of Hamilton. Jefferson, Robert Morris, and Gouverneur Morris had earlier devised a plan for coinage. Free coinage of gold and silver was authorized. Both were made legal tender in the ratio of 1 to 15. The amount of pure silver in the "Dollar or Unit," 371.25 grains, has never changed. Other silver coins, half-dollar, quarter-dollar, dime, and half-dime. Copper coins, cent and half-cent. Gold coins, eagle, half-eagle, quarter-eagle. The gold eagle contained 247.50 grains of pure gold. Gold was worth more than fifteen times silver, and would not stay in circulation.

III. *Gold Period, 1834-78.*

The law of 1834 made the gold eagle 232 grains of pure gold; gross weight 258 grains. Ratio of gold to silver was fixed 1 to 16 (nearly). Silver driven from circulation in its turn.

In 1837 gold and silver coins alike were changed to a standard of nine-tenths fine. This reduced the gross weight of the silver dollar to  $412\frac{1}{2}$  grains, and made the gold standard 232.2 grains fine.

In 1849 the coinage of gold dollars and double-eagles was authorized, and in 1853 gold three-dollar pieces.

In 1853 silver fractional currency was overrated in coinage to keep it in circulation.

In 1873 the silver dollar was dropped from the list of coins, so that gold only had free coinage, and the *gold dollar was made the unit of value*. Trade dollar of 420 grains, nine-tenths fine, was authorized. Up to this time only a little over eight million silver dollars had been coined.

IV. *Don't-know-where-we-stand Period, 1878-92.*

"Bland" silver bill. Revenge for the demonetization of 1873. Restored the old silver dollar and its legal-tender quality. Provided also for issue of certificates for silver dollars deposited. In 1882 gold certificates were authorized, and in 1890 certificates for bullion deposited.

**American Bank-Notes.**I. *Colonial Period.*

A "bank" was a batch of paper money. It was an era of "land-banks" in Europe and America. Compare John Law's scheme for a "land-bank" with John Colman's.

II. *"Free Banking" Period. Revolution to Civil War.*

After the Revolution a mania for banking spread through the country. Banks freely established under State authority issued notes in reckless competition.

Bank of North America. A scheme of Robert Morris to obtain supplies for the army. Chartered by Congress in 1781. It was in some sense a bank of the United States.

First Bank of the United States. Devised by Hamilton. Chartered in 1791. Charter expired in 1811, and not renewed. After this the State banks were more reckless than ever in their note-issues. In 1814 there was a general suspension of specie payments by these banks, followed by still wilder note-issues.

Reaction led to the chartering of the second Bank of the United States in 1816, charter to expire in twenty years. President

Jackson made war on the bank. After the destruction of the bank, State-bank issues were more disastrous than ever.

The "Suffolk System" of New England (1825), and the "Safety Fund Act" of 1829, and "Free Banking Act" of 1838, in New York, were partially successful in restraining the evils of irresponsible "wild-cat banking." The United States, tired of depositing its funds in treacherous State banks, established the Sub-Treasury system (1840-46), which still exists.

### III. *National Bank Period.*

The establishment of this system (in 1863) was at once a fiscal scheme to procure a market for United States bonds and an attempt to give order and security to bank-note circulation.

The essential feature is that note-issues are secured by deposit of United States bonds with the National Treasury, and State-bank issues are taxed out of circulation.

The new office of United States Comptroller of the Currency was created at this time. In 1882 another law gave the right of renewal to National Bank charters.

The results of the law have been,—

- (1) To give national circulation to bank-note issues at their face value.
- (2) Absolute security as to ultimate payment of the notes and practical convertibility.

## Government Paper Money.

### I. *Colonial Government Issues.*

These began in Massachusetts in 1690 to pay the expenses of the Canadian expedition. All the colonies indulged in the issue of "bills of credit." Over-issue and depreciation were the rule everywhere.

### II. *Continental Congress Period, 1775-89.*

Depreciation of the first issue made in 1775 reached 1000 to 1 in some parts of the continent. In 1780 redemption interest-bearing notes were issued for these at the rate of 1 for 20.

### III. *Treasury-Note Period, 1789-1861.*

Constitutional provisions as to "bills of credit." The people of 1789 had suffered too severely from over-issues of paper money to willingly give such power to the government, and until 1812 no notes were issued.

Interest-bearing notes of various forms were issued during the War of 1812, the financial crisis of 1837, the Mexican War, the financial crisis of 1857, and the Civil War.



## IV. "Greenback" or "Legal-Tender" Period.

Some of the Treasury notes previously issued were receivable for all *public* dues, some were payable *on demand*, but the "greenbacks" issued under the Act of February 12, 1862, were the first notes of any kind made "legal tender" in the payment of debts between man and man. They were not receivable for duties on imports nor interest on the public debt. The law authorized the issue of \$150,000,000. They were justified as a necessity of war.

Two other acts, June 11, 1862, and March 3, 1863, each authorized the issue of \$150,000,000 more. The highest actual amount issued fell a little short of the authorized \$450,000,000.

*Resumption.*

In 1875 an act was passed requiring payment of the legal-tender notes in coin after January 1, 1879. On the latter date there was no demand for redemption. The legal-tender notes were already at par, and were preferred to gold. They have remained practically convertible.

The legal-tender controversy—especially as it centres in the "Legal-Tender Cases"—is an interesting topic for study. See Sherman's Speeches on Finance and Taxation, and Knox, United States Notes, Ch. XI.

*Present Currency of the United States :*

*Gold coin.*—Double-eagle, eagle, half-eagle, quarter-eagle, dollar.  
Unlimited legal tender.

*Silver coin.*—Dollar (unlimited legal tender), half-dollar, quarter dollar, dime, and half-dime (limited legal tender).

*Bronze and nickel coin.*—Five, three, and one cent.

"Greenbacks."—Legal tender.

*Gold certificates and silver certificates.*—Issued on the deposit of gold and silver coin. Not legal tender.

*Silver bullion certificates.*—"Treasury Notes," under Act of 1890.  
Legal tender.

*National bank notes.*—Not legal tender.

## LECTURE VII.

## HISTORY OF MONETARY THEORIES.

**References.**—Andrews's Inst., Part IV., Ch. III.; Poor, Money: its Laws and History, pp. 62–429. (Select such parts as bear on the writers mentioned. This book is one to be used with caution.) Böhm-Bawerk, Capital and Interest, Ch. I., II.; Ashley, Economic History, Ch. III.; Smith, Wealth of Nations (Preface to Bohn's Edition), also Book IV., Ch. I. Colwell's Ways and Means of Payment reviews monetary theory briefly in different parts of the work.

Theories of money are among the oldest of purely economic theories. Three main lines of theory,—(1) nature and functions of money, (2) interest, (3) value of money. The use of money well established before any conscious theory. Certain moral and legal ideas concerning money before its economic nature was made subject of thought.

## I. Oriental Ideas.

The Mosaic law (*circa* 1300 B.C.) forbids lending on interest to another Hebrew: "Usury of money, usury of victuals, usury of any thing that is lent upon usury." (Deut. xxiii. 19.) The law permits lending on interest to strangers. The Babylonian tablets show lending on interest to have been common.

## II. Græco-Roman Ideas.

Aristotle's (384–322 B.C.) the typical views, partly economic, partly moral. He regarded money not as the same thing with wealth, but only the means of effecting exchanges. Money in its nature is "barren," hence interest is contrary to nature and unjust. Here emerges a theory as to the economic cause of interest, and based upon it a moral theory of distributive justice. This controversy upon interest, both in moral and economic aspects, has lasted to our time. Romans added nothing to economic theory. Both Greeks and Romans practised loaning at interest, although their writers condemn it.

## III. Ecclesiastical Ideas.

Early Christians included strangers in the humane prohibition of interest. Thomas Aquinas (thirteenth century), typical of the Church in his doctrines, combines the economy and natural law of Aris-

totle with the Mosaic and Christian ethics. Reason and Revelation against interest. Adds the argument of "consumability" of money. Also, time is not to be charged for, because the common property of all.

#### IV. Mercantilist Ideas (1500-1700).

Since the Crusades a new spirit. Enterprise, discovery, and commerce.

Feudal payments in service and kind changed into money dues and taxes. Rise of prices from influx of American silver. An age of commerce. Former ages had despised commerce and exalted agriculture. Money a necessity in commerce. Became at once the means and the end of trade. Central idea of Mercantilists, —*Money is synonymous with Wealth*. "Balance of Trade" theory follows from this. In Italy, Holland, England, and elsewhere views on interest changed. In 1546 interest legalized in England at rate of ten per cent. Writers defend interest. Money no longer barren. Calvin almost grasped the true idea.

Typical Mercantilists,—Jean Bodin (1578), Antonio Serra (1613), Montchrétien de Watteville (1615), Thomas Mun (1621), Schröder (1686). In France Colbert, and Cromwell in England, *practised* the Mercantilist theory. Survivals of the theory and practice in the nineteenth century.

#### V. Theories of the Capitalistic Period.

The Mercantilists had no conception of "capital." Interest to them was payment for the loan of money. Grotius, Locke, and others, in the seventeenth century, had justified interest by the analogy of hire paid for other goods and rent for land. Nicholas Barbon (1690) and David Hume (sixty years later) taught the distinction between *Capital* and *Money*, and that interest was paid for capital, which is productive, and not for money.

From this time there are two problems more or less confused in discussions on interest. (1) A problem of Economic Production,—viz., what is the source of the productivity of capital? (2) A problem of Economic Distribution,—viz., who obtains the product of capital?

The *motif* of the discussion a twofold one: (1) Scientific; an economic stand-point. (2) Social justice, being the nineteenth-century form of the old usury controversy; an ethical stand-point. Both these motives appear in most discussions. Interest, henceforth, strictly not a question of *money*, since not money, but *capital*, yields interest.

With growth of capital, and even before the distinction had been drawn, in theory, between money and capital, another line of monetary questions became prominent.

## I. Seigniorage.

Shall the government keep out of the coin enough bullion to pay cost of coinage, or even to pay a profit? Discussed before 1382 by Oresme; in 1526 by Copernicus; by nearly all writers on money since the seventeenth century.

## II. Recoinage of Old and Clipped Coins.

Shall the old standard be restored at the expense of the government, or shall the standard be debased to level of the light coin?

The theory-making controversy was the recoinage in England in 1696. Lowndes the champion of lowering the standard, Locke and Sir Isaac Newton the triumphant defenders of "ancient right standard." This was one of the greatest victories for good money in modern history.

## III. Theories of Bimetallic Circulation.

(1) Standard and "token" coins. (Nicholson, Ch. IV.)

(2) Silver or gold standard, or bimetallic standard.

*Theory-making Laws or Controversies. England.*—Coinage law of 1666; silver standard; free and gratuitous coinage of gold and silver; recoinage of 1696. Report of Sir Isaac Newton, 1717. The recoinage law of 1816 is a landmark in the history of bimetallic theory. This law changed the coinage of England from a silver standard to a gold standard. Previously, gold had been full legal tender at a legal rate to silver. The law demonetized silver, making it a token-coin. England has since been a gold monometallic country, as opposed to the bimetallic policy of France, and England's policy has thus far succeeded. All through the eighteenth century the market rate of silver seems to have been above the English mint rate, and England lost her silver circulation except coin worn down to the gold level. Gold had become the practical money of England. The value of silver falling, people began to bring it to the mint. The coinage of silver was forbidden in 1798. Lord Liverpool, in his *Coins of the Realm*, argued that gold and silver could not be maintained concurrently in circulation as full money; that gold had become the practical standard money; that, therefore, the best policy was to adopt a gold standard.

*Continental Europe.*—France in 1785 and by the law of 1803 had adopted a ratio of 15½ to 1 between silver and gold. This policy, persistently maintained until after 1873, has been the great counter-argument to England's policy. In 1857, by the Treaty of Vienna, a Germanic monetary union was formed, followed by the Latin Union



of the Treaty of Paris, 1865. In 1873 came the German demonetization of silver, followed by suspension of silver coinage by the nations of the Latin Union.

*United States.*—The ratio adopted in 1792 was 15 to 1. In 1834 it was made approximately 16 to 1. Before 1800 there seems to have been little thought anywhere of using only one metal. Gold monometallism was not adopted in the United States until 1873, and was partially abandoned in 1878. Both theories are struggling in the "free coinage" controversy of to-day.

#### IV. Theories of Bank-Note Currency

Began mainly in discussions of the seventeenth century preceding the founding of the Bank of England. The most notable controversy, however, was over the "Restriction" (1797–1819). Ricardo's theories have been dominant. The Bullion Report contained his ideas substantially. The great question was as to whether the high price of bullion was due to a depreciation of bank-notes. This controversy, as well as the later controversy between the "Banking Principle" and "Currency Principle," has been considered elsewhere (Lectures V., IX.). In America, the theory of unlimited and unregulated issues prevailed for a long time, gradually meeting more opposition, until in the National Bank Act the theory of government regulation was adopted.

#### V. Theories of Irredeemable Paper Money.

- (1) The "Land-Bank" theory of John Law and others was the rival of the banking theory established in the Bank of England. It was imitated by Colman in Massachusetts, and in the issue of the French assignats of the Revolution.
- (2) "Fiat" money. "Coining the credit" of the nation. Prevalent theory in the American colonies, and in Austria since 1762. Since the Civil War it has been, in the United States, the theory of a strong party.

These five points of controversy in the capitalistic period are only varying forms of one fundamental problem, the *Value of Money*. One theory holds that the money material must have value aside from its use as money. The other theory holds that money is only a ticket of transfer, and need have no value as a commodity. Under differing conditions those upholding these theories have received various names. "Contractionists," "hard-money" men, bank-note-issue "monopolists," are "value" theorists. On the other hand, "inflationists," "soft-money" men, those who favor "free banking," "greenbackers," cling to the "ticket" theory. The controversy is as old as monetary science.

## LECTURE VIII.

## VALUE AND DISTRIBUTION OF MONEY. RELATION OF THE QUANTITY OF MONEY TO NATIONAL PROSPERITY.

**References.**—Jevons, Ch. XVII., XXVI.; Walker, Ch. IV., V.; Mill, Pol. Econ., Book III., Ch. VII., VIII., XIX., XX., XXI., XXII.; Andrews's Inst., § 85; Nicholson, Money, etc., Ch. V., VI., VII.; Colwell, Ways and Means of Payment, Ch. XIX.

Much that is written of money applies actually to metallic money only.

The vast extension of credit-money and credit in our *practice* has far outrun our *theory*.

The practical law of value of money is the law of *demand and supply*.

True of metallic money, of bank-notes, of government paper money.

*Demand for money* tends to increase from following causes :

- (1) Increase of products, giving consumer increased purchasing power and producer more products to sell.
- (2) Intensified spirit of enterprise, from pressure of want, new opportunity for industry, etc. Producer seeking capital.
- (3) Extension of commerce.
- (4) Increase of population.
- (5) Decrease in use of credit.

*Supply of Money.*—Causes tending to its increase.

- (1) Increased production of precious metals.
- (2) Decreased use of gold and silver in the arts and in hoards.
- (3) Legal monetization of a new material.
- (4) Increased rapidity of circulation.

**Law of Value of Money.**

Value of money varies directly as demand and inversely as supply.

With a given supply, increase in demand raises the value of money, and *vice versa*. With a given demand, increase of supply decreases value, and *vice versa*.

**Can Law create or change Value in Money ?**

- (1) Governments can influence the demand for money, as by making it legal tender, and thus alter its value.
- (2) Governments can change the value of money by increasing or decreasing the supply.

- (3) The value thus given to money by law is an arbitrary value, and does not depend on the value of the material of which the money is made. United States "greenbacks" are an example of this.
- (4) The value of money being a question of the relation between the quantity of money and the amount of money work, there is no limit, *theoretically*, to the value which a government might give to its currency *if it had a monopoly of money supply*.
- (5) But no government has a monopoly of money supply. Money-demand and money supply are international, and the laws of any single country cannot control them. This places practically very narrow limits within which legal value can be given to a currency in a country.

### Value and Price.

Price is the money value of goods. Wheat at one dollar a bushel means that the money value—*i.e.*, the price—of one bushel of wheat is one dollar. If the value of money is increased, one bushel of wheat is worth less than one dollar,—*i.e.*, increasing the value of money lowers prices, and decreasing the value of money raises prices.

### International Distribution of Money.

With international trade, prices are fixed by international demand and supply,—*i.e.*, in a world-market. If from any cause, such as the discovery of new mines of gold or silver, increasing the quantity of money, prices are higher in the United States than in foreign countries, foreigners will increase their sales here and diminish their purchases,—that is, our imports will tend to exceed our exports of goods, and we shall have to send money abroad to pay the balances. This will continue until our excess of money is drained off to foreign countries and equilibrium in prices is restored. If, again, our prices become relatively low, the golden current sets towards our shores until once more the general level is reached. This illustrates what is called the "automatic movement" of money in foreign exchange. *Price* is the regulator of this movement.

So long as money was regarded as synonymous with wealth, as in the Mercantilist theory, a "balance of trade," showing excess of exported over imported goods and bringing in money, was looked upon as a national blessing. Although such a "balance of trade" really tells nothing as to the prosperity of a country, traces of the old idea still remain. And in fact, in many emergencies, a flow of gold from the country may be a serious thing, but this for other reasons.

### Bullion Export and Import.

The precious metals are the only *international* money. Hence, so far as bills of exchange do not settle international balances, gold and silver must be used. The *law-made* value of money cannot be exported. *Bullion value* alone can move from country to country. Hence the advantage of a national currency resting on the bullion value of the precious metals.

### Relation of Quantity of Money to National Prosperity.

A nation needs just that amount of money which will best facilitate the exchanges necessary to the highest development of industry and commerce. A calculation as to the exact amount needed would be as futile as a calculation of the number of miles of railroad that a country needs.

But upon this subject, as we have seen, there are always two opposing schools.

#### I. *Typical Arguments of the More-Money School.*

- (1) With increase of population more money needed.
- (2) Increasing industry demands more money.
- (3) The enterprising class are the borrowing class, and an increasing currency, by rendering debt-payment easier, promotes enterprise.
- (4) More money means higher prices, higher prices mean large profits to producers, and the prosperity of producers is national prosperity.
- (5) More money means higher wages to the laborer.
- (6) Periods of rising prices have been periods of unusual enterprise, as the period after the inflation of the currencies of Europe by the silver of Potosi.
- (7) The more money a nation has the more wealth.

#### II. *Typical Arguments of the Less-Money School.*

- (1) Increase of money means a larger amount of national wealth needlessly devoted to the purpose of exchange.
- (2) Increase of money, by rendering debt-payment easier, defrauds creditors.
- (3) Contracting currency discourages unsafe speculative enterprises.
- (4) Low prices benefit consumers.
- (5) A contracting currency promotes the extension of legitimate credit by encouraging capitalists to lend.

#### III. *Important Facts.*

- (1) Money is not the end, but only the instrument of trade.
- (2) A status of general high prices, or a status of general low prices, is equally consistent with national prosperity.



- (3) A change from more money to less, or from less to more, alters the conditions of every contract for the payment of money, producing hardship to the debtor in the one case, and to the creditor in the other.
- (4) Stability of prices is the ideal sought. With expanding or contracting industry, stability of prices can be maintained only by a corresponding change in the amount of currency.
- (5) Every people has its standard of money supply. A people like the French, hoarding their cash, require more money per capita to carry on a given trade than a credit-using people like the English.
- (6) An excessive paper currency or an excessive debased coin currency, by driving the best money from the country, puts a nation at a disadvantage in international trade.

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## LECTURE IX.

### PAPER MONEY, INCONVERTIBLE AND CONVERTIBLE.

**References.**—Walker, Ch. VIII.—XII.; Jevons, Ch. XVI., XVII., XVIII., XXIV.; Andrews's Inst., Part III., Ch. II.; Part VI., Ch. II., III.; Nicholson, Money, etc., Part II., Ch. II.; Dunbar, Ch. V., IX.; Knox, United States Notes.

#### Government Paper Money.

There are various kinds, as seen in the history of American currency. They are all promises to pay issued directly by the government. They may be payable on demand in coin, or be convertible into government bonds, or be a claim on public lands, or upon some special reserve held by government. They may even bear interest. They may be received by the government in payment of taxes, of customs duties and public dues generally, and they may be made legal tender in payment of private debts. They may be destroyed when once they find their way back to the treasury, or may be reissued. If issued by a government bank in response to commercial demand, and made convertible, they partake of the nature of bank-notes rather than government paper money.

The typical government paper money is that issued simply upon the credit of the government, based upon no special fund, and given a forced circulation by being made legal tender, and kept in circulation by reissue. Such is the so-called "Fiat money."

### Motives for the Issue of Government Notes.

- (1) Some sudden emergency, political or military, calling for large government expenses. An issue of paper money then is a forced loan. The alternative of the government obliged to borrow under such circumstances would be a sale of government bonds.
- (2) Under similar circumstances, or upon an unexpected deficit in the treasury, they may be issued redeemable at a near fixed date, to anticipate the receipt of taxes. Such notes often bear interest, and are practically a kind of government bond.
- (3) A popular demand for an increase of currency may lead to issues of paper money. "Political money" is a term often applied to government paper. Such demand may arise from an enterprising people in the face of unusual opportunity for profitable industry, but too poor to make use of the opportunity, and under the mistaken idea that what they need is *money*, while their real need is *capital*. Such demand may also arise from a debtor class seeking to make the payment of their debts easier.
- (4) Another motive is economy. The loss of interest on the value of the precious metals used in coin is enormous. It is argued, that if the same money work can be as well done by a cheaper material it is sound finance to use the cheaper material.
- (5) The convenience of paper money.
- (6) Scaling down of debts owed by the government is sometimes a motive. But the vice of paper money is *over-issue*. There is nothing essentially fraudulent in a government use of promises to pay. A government need not resort to paper money to defraud its creditors.

### Theory of Government Paper Money.

The issue of paper money is based on the same principle as seigniorage. It has been defined as money on which the seigniorage is one hundred per cent. Debasement of currency does not mean necessarily depreciation. Government, it has been seen, can keep up the value of money (1) by influencing demand, as by making the money receivable in public dues, or making it legal tender; (2) by limiting the supply.

### Economic Effects of Government Paper Money.

The economic effects of inflation and contraction of the currency have been already discussed. (Lecture VIII.) It remains to consider the effect of peculiarities in government paper money.

- (1) Government paper money, unless convertible,—*i.e.*, unless paid in coin on demand and not reissued except on receipt of coin,—does not expand and contract in accordance with the commercial

demand. This is not an argument against a government paper money in the hands of an administrative department of the government with discretionary power, as, for example, a properly constituted government bank. That is a separate question. Stability of prices cannot be maintained by a currency fixed in amount.

- (2) The "credit of the government," which is the basis of a paper currency, is an uncertain thing. The best and most honorable government in the world may be overthrown. In a democratic form of government, with the currency a matter of frequent legislative regulation, paper money introduces an additional element of uncertainty, and uncertainty disturbs the industry and commerce of the people. Sudden expansion of the currency works loss to creditors. Sudden contraction of the currency works loss to debtors. The fear of such sudden changes is itself a disturbing force.
- (3) One of the chief difficulties in regard to government paper money is its effect on foreign trade. Not being exportable, it leaves a smaller amount of coin in the country than would otherwise circulate. This becomes a matter of great danger at times, when there is an unusual demand for foreign shipments of money. It may thus be a real menace to foreign trade, and hence to domestic industry and to financial soundness, even when specie payments are ordinarily maintained. There is always the danger of suspension through excess of paper money.
- (4) These difficulties in the way of government paper money, however, are not to be regarded as insuperable. An amount of paper money, safely limited, with immediate redemption amply provided for, issued by a government which is politically stable and administered with honor and ability, may not only work no harm to the industry of the people, but may be a positive and gainful convenience.

### Coin and Bullion Certificates.

There is a peculiar class of government notes which aims to secure the conveniences of paper currency and the security of a metallic money. The United States have made the greatest use of these notes. They are certificates issued for coin or bullion deposited with the government and held on deposit. It is practically a metallic money, and rests on no special theory. It effects no economy other than convenience.

### Bank-Notes.

These are promissory notes of a banking firm or corporation payable to bearer on demand, in coin, and circulating as money. They

are theoretically convertible, but sometimes become practically inconvertible. When inconvertible, the principles of their circulation are like those of government inconvertible paper.

### Convertible Bank-Notes.

The chief questions involved are as to the policy of limitation of issues and as to methods of securing issues.

#### (1) *Limitation of Issues.*

The famous controversy in England which led to the Charter Act of 1844 turned on the question whether really convertible notes could be issued in greater amount than the coin which would have circulated. The "Banking Principle," championed by Mr. Tooke and others, was that really convertible notes acted in all respects like coin, and could not be issued in excess. The "Currency Principle" was advocated by Lord Overstone and others, and held that, under a system of free banking, over-issue is possible and likely to occur, inflating the currency. In England, the principle of limiting the issues was adopted in the Bank Act of 1844. A different application of the same principle obtains in this country under the National Bank system. Under present banking methods, however, the bank-note is losing its relative importance, through the enormous growth of the deposit and check system. The more vital question in banking is the question of reserves.

#### (2) *Securing of Issues.*

Where governments allow banks to issue notes, they usually require special security for notes. There are several methods:

- (1) A coin reserve.
- (2) A pledge of property.
- (3) A combination of reserve and pledge.

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## LECTURE X.

### THE BANKS AND THE GOVERNMENT.

**References.**—Jevons, Ch. XVIII., XXII., XXIV., XXV.; James, "Banks of Issue" (Lalor); Dunbar, Ch. II., IV., V., VIII., IX.; Andrews, *Honest Dollar*; Publications of Amer. Economic Association, Vol. IV. No. 6.

The relation of the State to trade is a matter in regard to which few, if any, general rules can be laid down. The trade functions of governments vary in different countries and with every generation. To each special problem a special answer must be sought.



## The State and Coinage.

By a sort of common instinct, the highest governing power in every country has claimed and been allowed to exercise the right of coinage, of regulating the issue of the money of the nation. This instinct is undoubtedly the result of a long experience, which the race has well-nigh forgotten, of the evils of private coinage.

## Paper Money as a Government Prerogative.

It was a natural and easy step from the regulation by the State of coined money to the regulation of its paper representatives. There seems to be little question of the political right of governments to issue directly their paper promises for circulation as money. The disputes over the right of the United States to issue paper notes arose from the peculiar origin of our federal government. It was a mere question of the interpretation of the Constitution. But a political right does not necessarily carry with it an economic justification.

## The State and the Banking System.

With the development of the modern system of organized credit, supplanting the actual circulation of money to a vast extent, the question takes a new form and becomes more complex. A simple coin currency, authenticated by the sovereign power, easily circulates in all the channels of trade,—it comes and goes at command. The same could be said of a good government paper money. But organized credit is not so mobile. Unless properly organized, it may prove a hinderance, not an aid, to commercial progress. What shall be the relation of the State to the banks? Free banking? State banking?

## Banks of Issue and Banks of Deposit.

The development of the deposit and check system is one of the most notable features of modern banking. It has come to be more important than the note-issue, both as a source of profit to the banks and as a substitute for money payment. Note-issue was an earlier development in banking, and many writers claim that note-issue is no longer a legitimate banking function; that banks are the markets for local and temporary credit alone; that it was to this end that banks formerly issued notes, and that the deposit and check system now serves this purpose better.

### The State and Bank-Notes.

A bank-note circulates as money. It will not circulate beyond the limits of the credit that guarantees it. The old system of local bank-notes under "free banking" was disastrous. The notes were discredited where the bank was not known. The guarantee of notes should be as wide as the circulation. If a national circulation is desired for the notes, the notes should have a national guarantee. With the modern developed system of deposit and discount the needs of local credit can be met. With the better means of transportation of our age there is a growing reason for a national, not a local, circulation for bank-notes, as for all other money. How shall this national guarantee be given?

### Government Monopoly of Note-Issue.

The answer to this question has been substantially the same in the chief commercial nations. "Free banking" in the old sense has been abandoned. Private note-issues have been practically destroyed. A monopoly system under government supervision or control has been established. In England, the Issue Department of the bank is virtually a government institution intended to monopolize the note-issue. The Reichsbank of Germany, under the controlling hand of the imperial government, has dealt the death-blow to other bank issues of notes. The French government regulates note-issue in the Bank of France. The National Bank system of the United States, while giving no one bank a monopoly of note-issue, yet creates a government monopoly in the system, and gives the government guarantee to the issues.

### Motives for Government Monopoly.

- (1) *Fiscal*.—The great banking systems of the world have been founded by government. Modern States are great borrowers, and must have a market for their credit instruments.
- (2) *Political*.—Governments have always appreciated the advantage of having the interests of the classes financially powerful united with the interests of the government.
- (3) *Industrial*.—The government is the largest industrial concern in a country, engaging in more enterprises, employing more men, with larger expenditures and larger receipts, than any other corporation or system. Governments dislike banking with strictly private concerns. It is a business advantage for a government to manage its own funds.
- (4) On the part of the financial leaders in the country there is an advantage in having this alliance with the government. Their

influence with the government is more powerful, their grasp upon the money-market more firm, in financial straits they can rely to some extent on government aid. Reckless competition in note-issue has been proved ruinous.

- (5) Unity and correlation of the banking system are accomplished,—a great desideratum in these days of quick transit, quick transportation, and an unlimited market.
- (6) Concentration of money and credit is rendered more effective and safer, having the government interests connected with the interests of capital.

### Tendencies of the Time.

It is not probable that we have reached the final development. The present appears to be a transitional period.

- (1) There is a growing tendency to divorce note-issue from the deposit and discount functions of banks.
- (2) Countries where the deposit and discount functions are most highly developed, as England and the United States, show a relatively decreasing use of bank-note circulation.
- (3) There is at the same time a growing demand for paper money in some form, and particularly for paper of small denominations.
- (4) From one point of view there seems to be a tendency towards the extension of the government monopoly of note-issue, and towards placing this monopoly more directly in the hands of the government. The ideas emerging here are, that note-issue is essentially a part of the general circulating medium, and should be in government hands, like coinage; while the purposes of local credit are served by the extension of the deposit and check system of private banks.
- (5) The increasing use of savings-banks and like institutions puts into the hands of the wage-earners the advantages of the credit system.
- (6) The growth of trust companies shows a tendency towards a more secure concentration and effective organization of credit under private systems.
- (7) From another point of view, then, there is a tendency towards the doing away with the necessity of governmental organization of credit in every form, by making it safe and easy for all classes to make use of credit through the operations of private banking.
- (8) One theory claims that, since the State does not control the expansions and contractions of trade, therefore the expansions and contractions of money and credit should be left to the operations of commercial demand and supply through freely-acting private agencies.

- (9) Another theory claims that an elastic system of bank-note issue can be best secured by some system, like the present national banks, freely acting within prescribed governmental limits, and having the hand and faith of the government behind it.
- (10) Another theory claims that this desired stability of prices can be best secured by leaving to private banks the ordinary banking functions, placing in government hands the regulation of the entire currency, including paper money of all forms, and through the agency of a government commission measuring the changes of price and correspondingly expanding or contracting the currency.
- (11) No one can safely prophesy the outcome of these conflicting tendencies. It is hardly probable, however, that governments will soon give up the political advantages of controlling the bank-note circulation.

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## LECTURE XI.

### THE BATTLE OF THE STANDARDS. BIMETALLISM. THE SILVER QUESTION.

**References.**—Jevons, Ch. VIII., IX., XII., XIV.; Walker, Ch. VI., VII.; Andrews, §§ 77, 87; §§ 134, 135, 136, 142–145; Nicholson, Ch. VIII.; Part II., Ch. IV., V., VI.; Laughlin, Ch. I., II., XIII., XIV.

This question of the standard is a more vital one now than ever before, owing to the enormous expansion of industry in this century, the development of transportation and credit systems, and the growing internationalism of trade. The great discoveries of both gold and silver since 1848 have intensified the interest. The change by England to a gold monometallic standard in 1816, and the French adherence to a bimetallic policy since 1803 (at the ratio 1 to 15½), have been already noted. It remains to state the issue between the single and the double standard theories.

#### The Silver Question in the United States.

This, so far as it is a scientific and not a political question, is one phase of the bimetallic controversy. "Free silver coinage" in the United States means bimetallism, and bimetallism in its most difficult form. Under the present silver law we have a gold standard, using silver only as an accessory to gold. "Bimetallic money is money formed by opening gold and silver both to free coinage, and making each an unlimited legal tender at a certain permanent



legal value-ratio to the other." (Andrews's Institutes, § 77.) We, therefore, merge this question in the larger one of

### Bimetallism.

The advantages claimed for the bimetallic scheme are: (1) Greater stability in the standard of value. The two metals held together at a fixed ratio will respond far less violently than would either alone to any forces making for a change in value. (2) A more adequate and convenient supply of money. Gold alone is not enough to furnish the basis of the world's exchanges. (3) A par of exchange between gold countries and silver countries. Nearly two-thirds of the world's population are silver monometallists, one-sixth are gold monometallists. Trade is much obstructed by the uncertainty of foreign exchanges where the value of gold in silver is fluctuating.

The monometallists, as a rule, do not deny these advantages. They attack the practicability of the scheme. They urge: (1) That a fixed ratio cannot be maintained by law. The two metals, having different sources of demand and supply, will fluctuate in value along differing lines. Their relative value is a result of natural, not legal, causes. (2) That, as a consequence, a nation will practically have only one standard at a time, and that standard the cheaper metal, while the undervalued metal, obeying Gresham's law, will go to other countries. (3) That gold is preferred in wealthier nations, and is less unstable in value than silver, and furnishes an ample basis for the credit system of the chief commercial nations. (4) That the two metals, so far as they could be held together, would feel the shock of any tendency in either metal to change in value, and the value of the money standard would thus fluctuate more often.

### National Bimetallism.

Complete bimetallism as the policy of a single nation has been virtually abandoned. The experience of France shows how far the action of a single nation can go to hold the metals near a fixed ratio, in spite of a vast increase of one metal in quantity. For seventy years (1803-73) the mint of France, coining alike gold and silver freely at the ratio of 1 to 15½, held them near that ratio. The gold discoveries of 1848 and 1851, flooding the world with gold, only caused a slight premium on silver; both metals falling in value together. So long as France *maintained* free coinage of both metals, the ratio could not greatly vary.

This success was largely due to the equilibrium of demand for gold and silver between the nations. Germany, having a silver standard, wanted silver; England, having a gold standard, wanted gold.

When, after 1871, Germany and other European States and the United States demonetized silver, thus causing a sudden fall in demand for silver and rise in demand for gold, France suspended silver coinage. This was followed by a fall in the value of silver, which in a few years reached about twenty-five per cent.

This experience seems to show that the value of a commodity, existing in quantity vastly greater than the annual production, responds much more readily to changes in demand than in supply. It furnishes the bimetallist with an argument, since law is more potent in acting on the demand for gold and silver than on supply. The experience of France, however, does not prove bimetallism practicable for one nation. With both England and Germany against her, France failed even in alliance with the other states of the Latin Union.

### International Bimetallism.

The bimetallists take refuge in another plan,—international agreement between the chief commercial nations to carry out a bimetallic policy. The International Monetary Conference of 1878 was an attempt towards such an agreement, as was also that of 1881. The argument is, that while one nation cannot successfully open its mints to the free coinage of both metals as legal-tender money at a constant ratio without being flooded with the cheaper metal, yet the plan is perfectly practicable if attempted by a sort of *international gold and silver trust* formed by the governments of the principal commercial nations. Such a combination would monopolize the supply of the precious metals and control the demand. Gresham's law, it is claimed, could not operate, for the dearer metal would have nowhere to go, and the lack of demand would bring its value down again.

If such a combination could be maintained and could practically monopolize the supply of gold and silver, it would seem that a ratio fixed by law could be maintained within given limits. Without such an agreement, no nation is powerful enough to maintain the policy.

The demand of India and the East generally would have to be reckoned with, as well as the demand for consumption in the arts.

### Political Aspects of Bimetallism.

- (1) It is argued by some bimetallists that England's policy has been dictated by her position as a great creditor nation, unwilling as such to favor any increase in the world's supply of money, lest the value of her debts should be cut down. It is also argued that England favors monometallism because monometallism means

cheap silver, and cheap silver makes a profitable export to India in payment for Indian goods. Whatever her motive, England clings to her policy.

- (2) Many writers on this question who theoretically favor bimetallism argue that an international agreement is practically impossible, and that hence bimetallism must be given up.
- (3) In the United States, the silver-mining industry creates a sentiment in favor of restoring silver to its former equality with gold. The United States as a nation have championed the plan of international bimetallism, and a strong party in the United States advocates national bimetallism as a policy for this country. Witness the "Free Coinage" agitation in the present Congress.

## LECTURE XII.

### MONETARY PANICS.

**References.**—Jevons, Ch. XXIII, XXIV.; Walker, Ch. V., XI.; Andrews, §§ 88–90; Dunbar, Ch. VI., X.; Bagehot, Ch. II.–VII.; Willson, Currency, Ch. XXVIII.–XXXI.; Wells, Recent Economic Changes, Ch. I.–IV.; Patterson, Science of Finance, Ch. X., XI., XII.

#### The Money-Market.

- A market is the meeting of demand and supply. In the money-market the article dealt in is *money*, in the generic sense, including money and all forms of credit. It was the establishment of a money-market for the sale and purchase of *coined money* that led to the use of credit-money and credit.
- (1) The money-market arises from the necessity of borrowing capital under a system of specialized industry. Producers who are not capitalists must borrow.
  - (2) Money and credit being the universal transfer-medium, the loan of capital is in form a sale or barter of money and credit.
  - (3) Banks are the great operators in the money-market.
  - (4) Centralization in the banking system widens the money-market. The farmer in Iowa practically buys credit in New York.
  - (5) Since credit rests on the basis of money,—*i.e.*, *cash*,—it is properly called the *money-market*, although in practice mainly a *credit-market*.
  - (6) Legal-tender money being the only commodity which will, without special agreement, pay debts, if credit is destroyed, the whole money demand falls upon such money and enhances its value.

- (7) The permanent rate of interest is fixed by the demand and supply of capital ; but there is a fluctuating and temporary rate fixed in the money-market and affected by the demand and supply of money.

### Credit and Panic.

Credit and panic are logical opposites. A panic is a wide-spread loss of credit. The development of credit enables the business of a country to be carried on with far less specie than could be the case without credit. In the industrial world most debtors are also creditors. The banks are at once debtors and creditors. The whole business of transfer of capital or other goods from hand to hand depends on the confidence of each debtor that he can meet his debts promptly. For this end, the debts owing to him must be met promptly. The whole system is like a complicated chain, each link interlocked with many others. If one link breaks, it may weaken others, and they may snap, and still others, until the whole chain parts. So long as everybody believes that he can get cash—legal-tender money—to pay his obligations if it is demanded, an enormous expansion of credit can be built up on a small cash reserve. If, however, this confidence is broken, and there is a general rush for the cash reserve, the whole credit system must collapse unless the panic is stopped.

### Causes of Monetary Panics.

Panics are psychological phenomena: difficult to trace their causes.

Panics are the reaction after excessive hope, after speculative enterprise.

- (1) Speculative expansion of certain industries; over-production in these industries; prices fall below cost; merchants handling the goods unable to pay producers; producers unable to pay advances of banks; failure of banks, general alarm, panic.
- (2) Excessive extension of credit; raising prices; promoting speculative enterprise; reacting again to extend credit still further, until the bubble bursts.
- (3) Sudden changes in demand for certain goods might lead to undue production or stop production of such goods, and thus precipitate an industrial crisis leading to a monetary panic.
- (4) A severe contraction of the currency is another assignable cause, making money too scarce in the money-market.
- (5) The theory has been maintained, notably by Jevons (*Investigations*, etc. Essays vi., vii., viii.), that industrial crises, often precipitating panics in the money-market, occur in regular periods of about ten and one-half years, corresponding to the sun-spot cycle.



The theory is that the variations in the sun, causing fluctuating harvests, affect the whole industrial world.

- (6) Inflation of the currency likewise an assignable cause.
- (7) Evidently a connection between banking system and panics. Banking is the organization of productive credit. Great panics do not occur where productive credit is not developed. England and the United States have chosen both the risks and the advantages of credit.

### **"The Problem of Managing a Panic."**

A panic being a frantic demand for money and credit in presence of an inadequate supply, the remedy is either to diminish the demand or augment the supply. It being a sort of mental disorder, it is often remedied by a species of mind-cure.

The Bank of England has both a preventive and a remedial course of action. (1) Speculative or excessive borrowing is checked by a rise in the rate of discount. (2) If this is ineffective, the requirement of coin or bullion deposits with the Issue Department in exchange for notes is "suspended," and notes are issued to the Banking Department in return for securities. The effect of this is that the Bank has notes, which are legal tender, and can thus continue its loans to those seeking credit, or increase its reserve. The "mind-cure" was so effective in the panic of 1857, that the knowledge that the Bank had added £2,000,000 to its reserve quieted the panic, although the day before the reserve was only about half a million, with thirteen millions liability for deposits.

The New York banks have a practice of combining their reserves so as to stand or fall together.

The United States Treasury has several times relieved the money-market by a purchase of government bonds, thus liberating a quantity of money locked up in the National Treasury. The increase of money or loans at the point of greatest demand until confidence is restored is the remedy.

The problem of preventing industrial crises is another and a more difficult problem. It lies at the root of specialized or capitalistic production. The world-wide separation of producer and consumer makes the easy and harmonious meeting of demand and supply well-nigh impossible, even with the facilities of railroad and telegraph. The organization of the industrial forces is so intricate that any disturbance in one part may derange the whole. A plentiful harvest of wheat in India may, by affecting the price of American wheat, prostrate industry in the United States.

Industrial crises and panics in the money-market, while interacting upon each other and seemingly standing in the relation of cause or effect to each other, are both the results of deeper causes.



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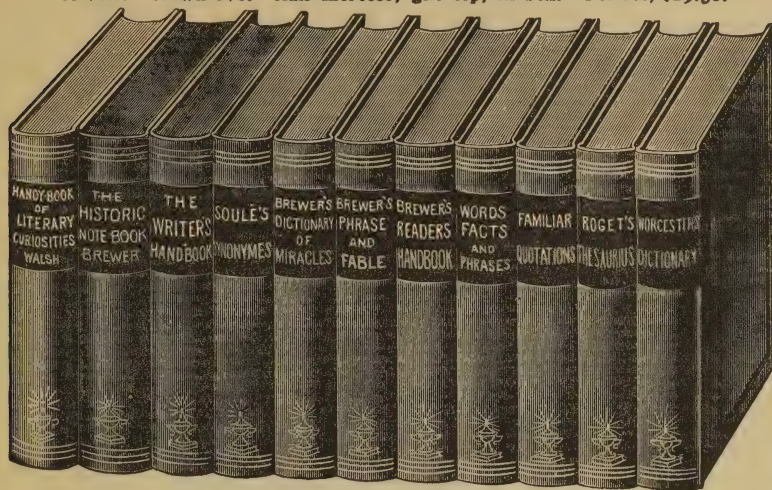
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